

## Free DNS: Too good to be true?

OpenDNS, NeuStar give away services they say are faster and more reliable than ISP offerings, but buyers worry there's a catch. **Page 20.**



## Red Hat, red hot

Red Hat CEO Jim Whitehurst wants to grow the open source company into a billion dollar juggernaut supplying data center infrastructure software. **Page 10.**

# NETWORKWORLD

The leader in network knowledge ■ [www.networkworld.com](http://www.networkworld.com)

February 11, 2008 ■ Volume 25, Number 6

## Q&A



IBM SVP Steve Mills on Big Blue's budding partnership with Google,

new opportunities in China, and the pros and cons of having a diversified software portfolio. **Page 22.**

## Those cut cables?

Not likely sabotage, says Johna Till Johnson, and here's what you need to know about such risks. **Page 33.**

## Tech valentines from hell

Columnist Howard Anderson reveals valentines sent from the likes of Steve Ballmer, Larry Ellison and others. **Page 34.**

## Lofty ambitions

Enterasys CEO Mike Fabiaschi wants to build a billion-dollar revenue stream through '08 acquisitions. It's a tall order. **Page 48.**

## Microsoft, Nortel tout benefits of their union

BY JIM DUFFY

Even though they fleshed out their joint strategy on the stage of "Saturday Night Live" a year ago, Nortel and Microsoft have shown since that their unified communications partnership is no joke.

Indeed, they appear to be making significant progress in their Innovative Communications Alliance (ICA). The companies say they have:

- Lined up 500 joint ICA customers, an increase from 300 last fall.
- Opened two collaboration centers in Raleigh, N.C., and Maidenhead, England, which 1,100 customers have visited.
- Built 16 Microsoft technology centers in the last year equipped with live ICA demonstrations.
- Established 150 ICA demonstration centers around the world — more than seven times as many as they had a year ago.
- Seen ICA recognized by market tracker Gartner as a unified communications leader in its Magic Quadrant grid of vendor and product positioning.

The companies formed ICA 18 months ago to develop products **See ICA, page 26**

## Attacking e-mail fraud

DKIM standard attracts Cisco, Google and PayPal

BY CAROLYN DUFFY MARSAN

Spoofers, spammers and phishers, beware.

There's a new gun in town, and some of the Internet's most powerful companies — including Yahoo, Google, PayPal and AOL — are brandishing it in the ongoing battle against e-mail fraud.

The new weapon is called DomainKeys Identified Mail (DKIM), an emerging e-mail authentication standard developed by the IETF. DKIM lets an organization cryptographically sign outgoing e-mail to verify that it sent the message.

DKIM addresses one of the Internet's biggest threats: e-mail fraud. As much as 80% of e-mail sent as if it is from leading brands, banks and ISPs is spoofed, accord-

ing to a report released in late January by the Authentication and Online Trust Alliance (AOTA). AOTA analyzed more than 100 million e-mails from Fortune 500 brands sent over a five-month period.

"It's critical that IT professionals look at e-mail authentication as a competitive advantage to protect their brands and their customers from these exploits as well as to protect their employees from spoofed or forged e-mail," says Craig Spiezle, chairman of AOTA.

DKIM proponents say the standard is an important step in rebuilding consumer confidence in e-mail.

"DKIM increases the trust with which people can regard their e-mail," says Jim

**See Antiphishing, page 24**

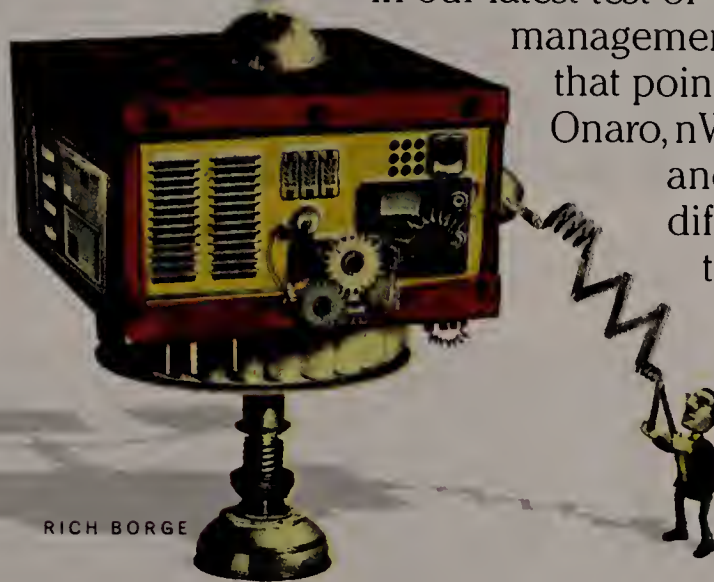
**NETWORKWORLD**  
**CLEAR CHOICE**

## TAMING THE PART 3

# VIRTUAL BEAST

In our latest test of virtual machine management tools, we find that point products from Onaro, nWorks, PlateSpin and Virtugo tackle different pieces of the VM management puzzle.

**PAGE 39**



RICH BORGE





Alternative Thinking About Reliability:

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# NETWORKWORLD

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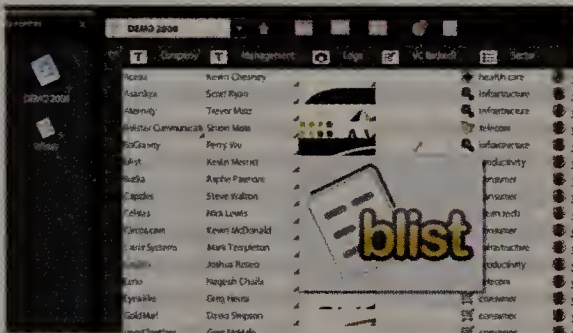
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## COOLTOOLS



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## GOODBADUGLY

### Happy 25th birthday, DNS

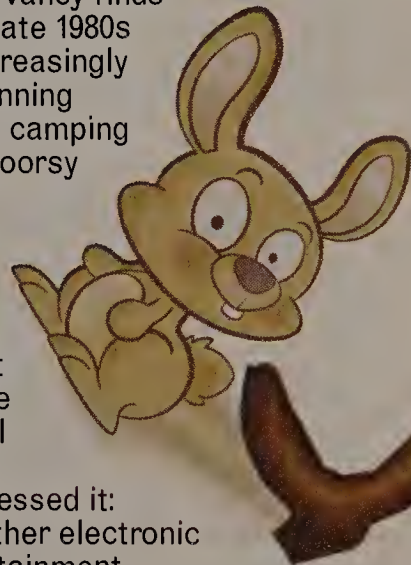
You have Paul Mockapetris and his invention of the Domain Name System 25 years ago to thank for the fact that you don't have to type a string of numbers when you're surfing the Web looking for your favorite sites.

### Slacking off on security

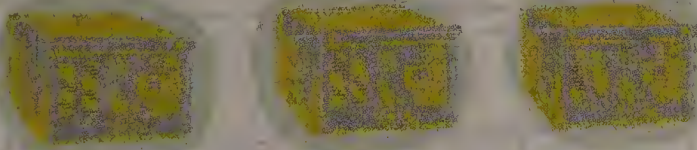
A new survey of 2,000 remote workers and IT pros found that 56% of remote workers felt that the Internet is safer than it was last year. However, 55% of IT staff said they thought remote employees are becoming less aware and less disciplined in their online behavior.

### Americans giving Nature the boot

A survey sponsored by The Nature Conservancy finds that since the late 1980s Americans increasingly have been shunning national parks, camping and other outdoorsy attractions. Participation in outdoor activities has been dropping about 1% a year since then for typical Americans. To blame? You guessed it: the Web and other electronic forms of entertainment.

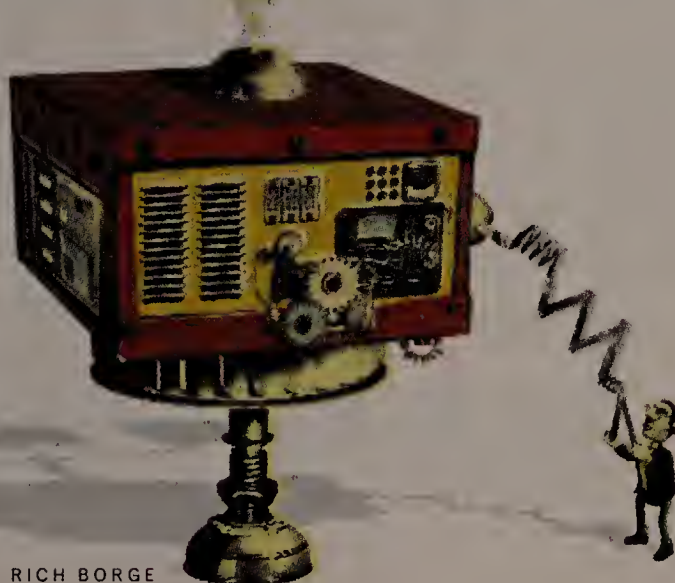


## VIRTUAL MACHINE MANAGEMENT TOOLS



## Taming the Virtual Beast: Part III

Tools from Onaro, nworks, PlateSpin, Virtugo tackle different pieces of the VM management puzzle, but there's no silver bullet  
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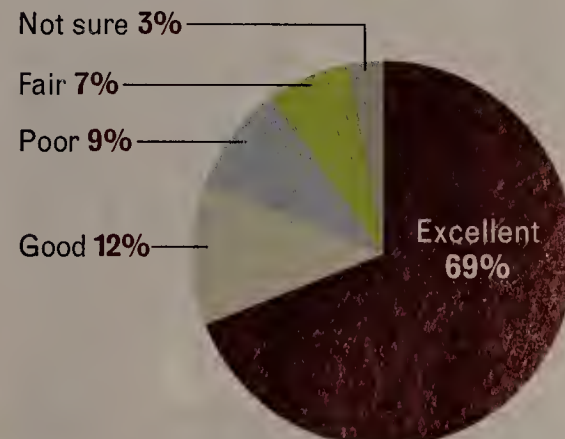


RICH BERGE

## POLL

A snapshot of how networkworld.com visitors voted on a key networking issue last week:

**How do you rate Juniper Networks' chances of giving Cisco a fight in enterprise network switching?**



Total voters for this poll: 878

Vote and discuss: [www.nwdocfinder.com/3842](http://www.nwdocfinder.com/3842)



## ISPs and false advertising

Re: Time Warner looks at traffic capping ([www.nwdocfinder.com/3834](http://www.nwdocfinder.com/3834)):

Ever run across a buffet that advertises "all you can eat" but runs out of all the good stuff early in the evening?

Or do you remember that dial-up ISP, years ago, that promised unlimited internet access for \$19.99 a month, but had nothing but busy signals when you tried to connect?

What this country needs is laws against misleading advertising with teeth in them. There seem to be such laws in Australia. When my brother, who lives there, on a farm thirty miles from the nearest town and five miles from the nearest sealed road, saw on television an offer from Telstra to

deliver a new mobile phone to his front door free of charge, he took them up on it. They initially refused, explaining that the offer only applied in the Sydney metropolitan area. But when he pointed out that the ad said nothing of the kind, and reviewed the penalties for false advertising, Telstra hired a courier to deliver it. He did compromise a little: The courier balked at the condition of the track in (you need four wheel drive and high ground clearance), so my brother met him at the first gate.

If the U.S. had laws against such deceptive advertising (with suitable jail terms for executives involved) Time Warner (and others) would behave more responsibly.

*Les Denham*

Discuss at [www.nwdocfinder.com/3835](http://www.nwdocfinder.com/3835)

## The cost of LANDesk: 2 views

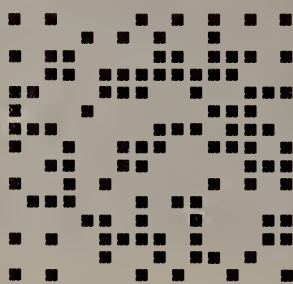
Re: LANDesk wins client management shootout ([www.nwdocfinder.com/3836](http://www.nwdocfinder.com/3836)):

Yes it does, but the cost for LANDesk is prohibitive. We would love to have LANDesk but we are a university so LANDesk is out of our reach.

When you compare systems management

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For more information on code scanning see [www.nww.com/codescan](http://www.nww.com/codescan)

products you need to factor in the setup, initial cost, price per seat, and annual maintenance.

I know that a Cadillac is better than my Chevy, but I also know I can't afford it. LANDesk's higher-priced pricing is ridiculous.

While having to write some of our own FixLets, we are using BigFix with a great deal of success. I just wish BigFix would build in Intel's AMT 3.0 technology so that we could go from bare metal.

*Fred Dunn*

Dartmouth College has been using LANDesk for several years now and we absolutely love

the product. While I agree there is a premium for this amazing product it is a well-deserved premium and is not excessive. We have found the product and sup-

port to be exemplary, and the savings are more than any price we have paid. Now does that mean I would not love lower prices? No. There are things in the product we cannot afford, like the virtual application technology that is, well, in just one word, wow. And can we afford it? No. But hey, if I knock loud enough on LANDesk's door for long enough you never know what is going to happen. I understand in the EDU world we don't have tons of money, so I get what I can, but what I do want is something that works and pays for itself immediately. And with LANDesk that is what we received. The support is stellar; if you give them change requests for the product they get implemented. I cannot say any less forcefully that I would leave my job if we could not have LANDesk.

*Timothy B. Chiacchira*  
Enterprise Administrator  
Dartmouth College

Discuss at [www.nwdocfinder.com/3837](http://www.nwdocfinder.com/3837)

## Keep DNS out of Layer 7

Re: Free DNS: Is it worth the cost? ([www.nwdocfinder.com/3844](http://www.nwdocfinder.com/3844))

Redirecting failed DNS queries to a search page is fine for users who are in browsers, but the user's browser can do that already. If the DNS query came from an e-mail server, it's almost always the wrong thing and requires extra work to fail gracefully without breaking spam filters, and for other services such as VoIP, IPSec, and ssh, it's never the right thing and there's usually no way to provide correct feedback to the user.

DNS is the wrong place in the protocol stacks to perform this browser-dependent function, which is why it breaks so many non-browser applications.

*Bill Stewart*

Discuss at [www.nwdocfinder.com/3843](http://www.nwdocfinder.com/3843)

E-mail letters to [jdix@nww.com](mailto:jdix@nww.com) or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification

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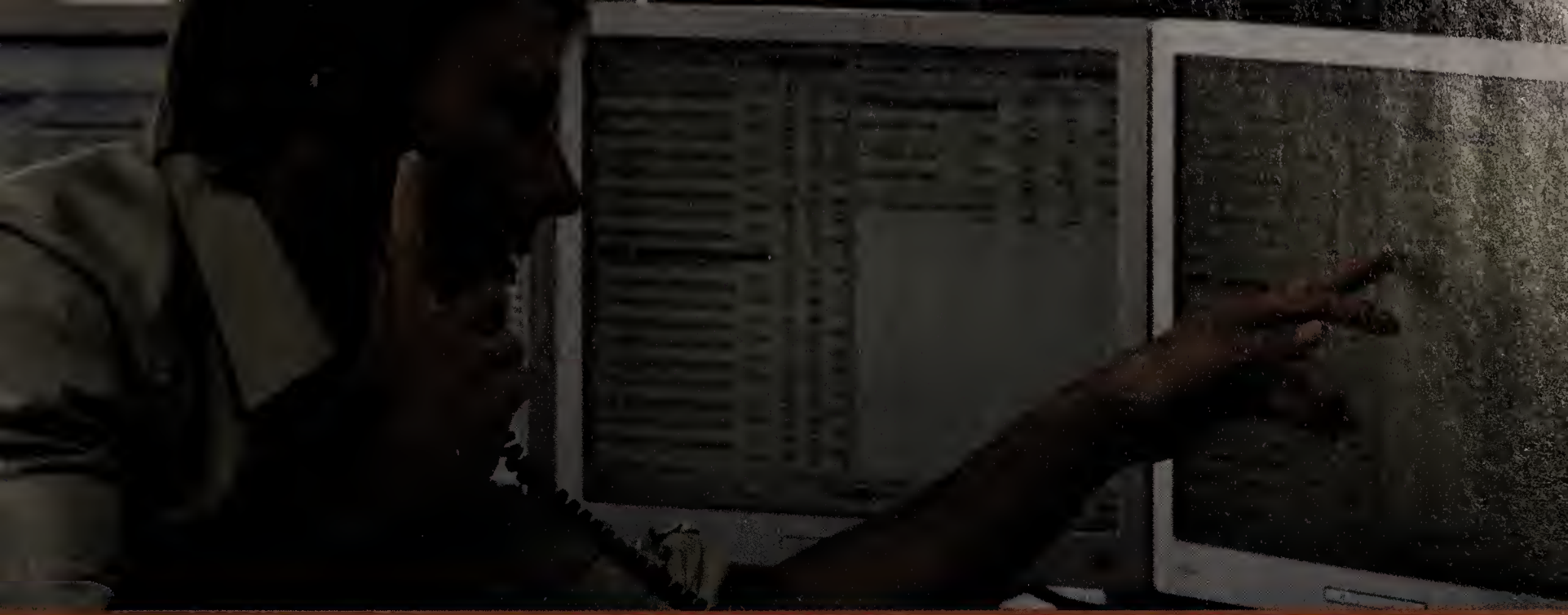
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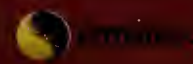


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## BLOGOSPHERE

■ **What changed?** Blogger Ronald Bartels, a self-described "IT firefighter" writes, "My wife told me that when she typed something incorrectly on her computer, my face popped up on the screen. After some thought, I realized she was referring to the OpenDNS pages I had configured. I think that OpenDNS is great and I started using it after discovering a reference to it in the Tomato firmware for my [Linksys] WRT54GL. OpenDNS configured on the WRT54GL provides great protection for my home network. I think it works better and is more secure than some of the web filtering software installed in some enterprise networks. This incident reminded me of a peculiar DNS problem that I encountered. I arrived at work and my boss directed me to the dealing desks. There I encountered chaos. . . . The [database administrator] stated that he had rebooted every server in site and that since his dealing application was still not working, it must have been me that had made a change on the network."

[www.nwdocfinder.com/3838](http://www.nwdocfinder.com/3838)

■ **Understanding MPLS VPNs, Part 1.** IPv6 guru Jeff Doyle writes: "One of the most compelling drivers for MPLS in service provider networks is its support for virtual private networks (VPN), in which the provider's customers can connect geographically diverse sites across the provider's network. . . . it's the 'private' part of VPN that I want to discuss. Not only must services remain distinct even though they are supported over a single MPLS network, but individual customer's networks must remain securely separated from each other."

[www.nwdocfinder.com/3839](http://www.nwdocfinder.com/3839)

■ **Crossing the line — the convergence of social and professional networking.** Collaboration expert Sue Hanley writes, "The Wall Street Journal had several articles about how recruiters are using the Internet to uncover 'digital dirt' about applicants by looking at their MySpace pages and about the issues associated with accepting a Facebook 'friend' request from your boss. . . . Over Winter break, all three of my children were home — a high school sophomore, a college junior, and a first year graduate student — and I brought up these articles one night. Neither of my two older children said that they would accept a 'friend request' from their boss — they both thought it would be inappropriate but they couldn't quite explain to me how they would explain to their boss why they would say no to the request. I mentioned that I thought you could segregate which information you shared."

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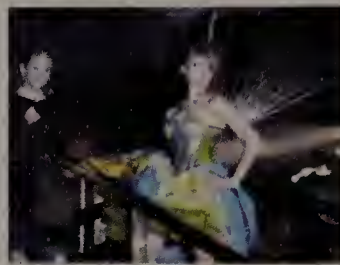


### New SLR cameras from Sony

A preview of the new Alpha A300 and A350 digital SLR cameras, which include large displays and "live view" features.

[www.nwdocfinder.com/3848](http://www.nwdocfinder.com/3848)

IDG NEWSWIRE:



### Mixing technology and fashion

High fashion melds with high-tech at the Boston Museum of Science, where models and designers showed off clothing that incorporated technology.

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VOICES FROM IT ROADMAP:



### The looming IP address shortage

John Curran, chairman of the American Registry of Internet Numbers, updates the status of the IPv4 address space, and discusses why companies need to start supporting IPv6.

[www.nwdocfinder.com/3850](http://www.nwdocfinder.com/3850)

## BEST OF NW'S NEWSLETTERS

# What will open access mean?

**Wireless:** Jan. 31, 2008 may well be a day that lives in infamy for changing the mobile WAN forever. That's the day that a 700MHz spectrum auction bidder metaphorically scratched his head or tugged his ear upon hearing the virtual request: "Do I hear \$4.71 billion?" With a nod, the anonymous bidder surpassed the FCC's minimum price of \$4.64 billion required to ensure that open access services will come to fruition in part of the nationwide commercial "C-Block" spectrum that the U.S. government is currently auctioning off. The bid assured that businesses and consumers alike will eventually gain network service options that support any competitor's device or application. What do these open access rules, now assured of materializing, actually specify? Attorney Kevin DiLallo spelled them out during the Mobile Explosion conference in Las Vegas late last month. DiLallo, who described today's carrier approach of restricting network access for protecting network integrity as "hooey," is a partner at Levine, Blaszak, Block & Boothby, a Washington, D.C., law firm.

[www.nwdocfinder.com/3845](http://www.nwdocfinder.com/3845)

**Network/Systems management:** Open source management applications disrupted the market a few years back and some of the pioneers in the technology area continue to

progress and grow their business. When companies such as GroundWork Open Source, Hyperic, Zenoss and others announced they would be providing open source applications for network management, many industry watchers questioned how well such tools could manage today's high-end networks. But the companies continue to build on their products to get open source in the door at larger companies. For instance, Hyperic recently updated its HQ software to Version 3.2, adding features that enable the software to monitor 1.5 million metrics per minute using MySQL as a back-end database. The updated release also includes views that enable IT managers to monitor all downed resources and length of downtime in one page. Hyperic says that feature will help speed problem resolution in large environments. This version also includes capabilities to collect more log data, which the company says increases performance.


[www.nwdocfinder.com/3846](http://www.nwdocfinder.com/3846)

**Storage:** A new player in iSCSI is making noise about its products. Open-E, a company based in Germany, has just opened offices in the United States and makes iSCSI initiators and targets that can be used by OEMs or integrators in their products.

[www.nwdocfinder.com/3847](http://www.nwdocfinder.com/3847)



# how solid is your drive?



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in notebooks and consumer electronics

weight (2.5" SATA-II SSD)	73g
endurance (MTBF*)	> 2 million hours
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## Microsoft preps slew of patches

Microsoft plans to release one of its largest bundles of patches ever on Tuesday. Scheduled for release are 12 security updates, seven of which have been given Microsoft's most serious "critical" rating. The remaining five are rated "important." The critical updates are for Microsoft's Windows operating system, Internet Explorer and the company's Office software, all of which are frequent targets of hackers. The less-severe updates will be for Windows Vista, Active Directory and Microsoft Works. Two important updates also are planned for the Internet Information Services Web server software. [www.nwdocfinder.com/3851](http://www.nwdocfinder.com/3851)

**Who's afraid of IPv4 address depletion? Not many.** Only 16% of IT professionals consider IPv4 address depletion "a huge concern that has or will soon force us to migrate to IPv6," according to a new BT INS survey of 310 IT professionals. Meanwhile, 26% of IT professionals felt IPv4 address depletion was "no concern." These survey respondents said they can use network address translation combined with VPNs to alleviate the problem. The majority of respondents — 58% — said they had some concern about IPv4 address depletion but "not enough by itself to cause us to migrate to IPv6 in the near term." [www.nwdocfinder.com/3852](http://www.nwdocfinder.com/3852)

**Google touts Apps without IT.** Google is releasing a new edition of its hosted applications suite that users can bring into the workplace without the involvement of their IT department. The new release, called Google Apps Team Edition, became available last week for free. Team Edition contains the core communication and collaboration services and applications of other editions, such as the word processor, spreadsheet, Talk instant messaging and calendar. It does not contain Gmail, which requires IT participation to re-route the company's e-mail flow. [www.nwdocfinder.com/3853](http://www.nwdocfinder.com/3853)

**Mozilla patches three critical Firefox flaws.** Mozilla issued 10 patches last week for its Firefox browser, including three for critical vulnerabilities. One of the critical vulnerabilities, MFSA 2008-06, is a problem in the way the browser handles images on certain Web pages. It's possible to exploit the flaw to steal a person's Web browsing history, forward that information, then crash the browser. It may also be possible to run arbitrary code on a machine, Mozilla said. [www.nwdocfinder.com/3854](http://www.nwdocfinder.com/3854)

## ITIL certifications and more

*ITIL expert Lou Hunnebeck, vice president of Third Sky, an ITIL training and consulting firm, recently joined Network World readers for a live text chat. For a copy of the full transcript, visit [www.nwdocfinder.com/3858](http://www.nwdocfinder.com/3858).*



**Fog: What are the major differences between ITIL foundations and ITIL foundations v3?**

This is a big question. The underlying principles and most of the core concepts are exactly the same. The key differences are in how the guidance is organized and enhanced, and how the new presentation supports more comprehensive understanding and adoption of the ideas. In v2, people didn't even read most of the seven books. In v3, you need to look at all the guidance in context. The Lifecycle approach is more obviously strategic and business-oriented.

**TechieGirl: What is the "Lifecycle" approach? If people didn't read the material for v2, why will they read it for v3?**

The Lifecycle approach refers to the reorganization of the guidance into the five phases of the Service Lifecycle: Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement. As to why they'll read it now, we've revamped the qualification program to reflect the whole library. In the v2 qualification scheme, almost no attention was paid to the other five books, so people focused on the ones in the exams. When the qualification scheme essentially ignored half of the guidance, it implied that it wasn't important. We've corrected that misimpression now.

**Default User: Are there any experience requirements for the ITIL certification as required in CISSP?**

For the basic Foundation level, the answer is no. For the Intermediate levels, a candidate must hold the Foundation certificate and there is advice regarding the level of practical experience recommended, but no rigid requirement.

**Can companies be certified on ITIL, or only professionals?**

Only persons can be certified in ITIL, because it is not a standard, but a framework of recommendations. Organizations can, however, seek ISO/IEC 20000 certification. This is an international standard for IT Service management, based on ITIL.

**Gusti: When talking about tools, (not tools to do/implement the processes), is there one out there [to] assess how well/bad an organization was doing in comparison with the ITIL best practices? Sort of like a checklist tool. I am ignorant about ITIL, so maybe I am asking a silly question.**

In terms of establishing a baseline assessment of your current state, there are some items that can help. Start, of course, with the measurement tools you already have in place, to establish base levels of performance on your services. There are some questionnaire-type tools to help do a self-assessment on the process side, including one available from the IT Service Management Forum, itSMF [the global practitioner association for ITSM], but it is currently being updated for v3. Organizations such as my own (Third Sky) also have our own standardized approaches to perform an assessment of current state. ■

### ONLINE: Join our next chats

**Monday, Feb. 25 at 2 p.m. EST:** Locking down wireless networks with "Will Hack for Sushi" blogger and SANS instructor Joshua Wright. **Friday, March 7 at 2 p.m. EST:** Busting enterprise security myths with 451 Group's outspoken Nick Selby.

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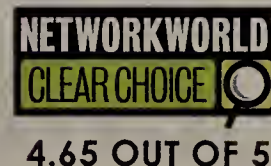
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# New Red Hat boss plots \$1B plan

BY JOHN FONTANA

Competitors should keep a wary eye on newly minted Red Hat CEO Jim Whitehurst, whose fresh face masks a certified executioner who has a plan to grow the open source leader into a billion-dollar juggernaut supplying data center infrastructure software.

The 40-year-old Whitehurst left his position as COO of Delta Airlines to replace Matt Szulik on Jan. 1, and brings with him a business savvy he intends to soak into the corporate culture of Red Hat.

He's already tagged Microsoft as bloated software that locks in CIOs, and he is actively talking up Red Hat's story around middleware, virtualization and software-as-a-service.

Next week, he will take the stage at Red Hat's JBoss World for his first conference keynote address as CEO and first appearance in front of a large audience of customers and partners eager to hear where the company and its software are headed.

He doesn't plan to disappoint and the Harvard MBA's goals are lofty. He expects the open source vendor that had just less than \$500 million in revenue last year to eventually strut into the billion-dollar range in the next three years.

Other goals that he thinks are achievable include continued increases in server market share, establishing the company as the leader in supplying service-oriented architecture (SOA) and the clear application server front-runner and re-accelerating the company's growth rate.

"He's an operator," says Raven Zachary, an analyst with the 451 Group. "It's tough to run an airline. The reality is that he understands complex issues related to operations."

That knowledge is what Red Hat appears to need as it looks to evolve past its Linux operating system roots. The company is attempting to mix the Linux operating system, virtualization, middleware, independent

software vendor (ISV) applications and software delivered as services into an enterprise data center platform.

"I bring a whole series of skills around execution to ensure that we really take Red Hat to the next level," Whitehurst says. "And that is something that the board was looking for."

Zachary says it is wait-and-see time, but that Whitehurst certainly "has the background to take Red Hat to the next level."

Nearly a year ago, the company released Version 5 of Red Hat Enterprise Linux (RHEL), but it was efforts to rationalize its 2006 acquisition of JBoss, join the virtualization craze, stave off attacks on its services and support crown jewel, and court Java developers where the company faced down new competitors such as IBM, Oracle/BEA and Sun. All of which lined up to take shots at the upstart.

## Red Hat's revenge

But Whitehurst is readying Red Hat's revenge. "Certainly we will move beyond just the [operating system], and we are already doing that to some extent," he says. "If you look at our Linux automation kind of broader technology vision and what we are looking at in delivering around SOA and middleware, we have a pretty compelling value proposition that we think works quite nicely together. We need to do a better job of articulating that in the marketplace. I think that is an area where our execution can improve."

The goal is to get JBoss to grow at twice the rate of RHEL.

The message is that Red Hat middleware will support intranets, SOAs and online services. Virtualization will fuel application portability allowing ISVs to tie together operating system and application into one certified-to-run package that can be installed on servers or in the cloud.

Telling the virtualization story, Whitehurst says, is another area where Red Hat needs better execution.

Whitehurst also has sized up the competition. He respects Microsoft's success but isn't intimidated. He says he's not a religious zealot who won't develop relationships with proprietary software vendors, but the issue with Microsoft is lock-in and software bloat. "We think our much more nimble, open source, higher-value offerings are very competitive with them," he says.

As far as Novell, he says Red Hat does not see the company very often in competitive deals.

"In terms of being a competitor, it is not a bad competitor to have if you are not running into them a lot," he says. On Oracle, Whitehurst doesn't slow down. "They create a lot of noise but not a lot of progress," he says. "It always pays to be paranoid, so we do follow their activities closely. But our model is quite

durable so we feel very, very good about that."

The Red Hat model is open source projects such as Fedora and JBoss complemented by enterprise versions of the same software tied into a service package.

Whitehurst says he's not about to abandon the desktop but is pragmatic about the evolution of desktop Linux, a business he says does not appear to have potential to generate a lot of "big dollars."

"Desktop is a place that is important to support certain areas of the world or certain customers in certain circumstances," he says.

Overall, Whitehurst sees his role as executing on progress.

"This is a company that still has a lot to do in developing the processes and the systems and the governance structures to continue to scale and be effective," he says. "So I will be spending a fair amount of time making sure that we are developing the models of decision making and all of this basic infrastructure kind of stuff to ensure we are enabling the business and not hindering it." ■

## InBrief

### Microsoft delays Vista SP1 availability

Vista SP1 will not be available until mid-March because Microsoft is working out issues with some device drivers that lose functionality when the service pack is installed. The company said last week that Vista SP1 had hit its release-to-manufacturing milestone, meaning the software is ready to be packaged for distribution.

### AT&T: 3G expansion on tap

AT&T plans to expand its 3G wireless broadband network to 80 additional cities in 2008, thus bringing its 3G services to almost 350 major U.S. markets by year-end. The company says its expansion plans are meant to connect more customers to high-speed mobile broadband, as well as pave the way for the eventual deployment of 4G networks. In addition to expanding its network, the company plans on completing its High Speed Uplink Packet Access network by mid-year, which AT&T says will let customers with HSUPA-enabled laptops send files more quickly than on AT&T's standard 3G network. Currently, AT&T's 3G network can reach downlink speeds of up to 1,400Kbps and uplink speeds of up to 800Kbps.

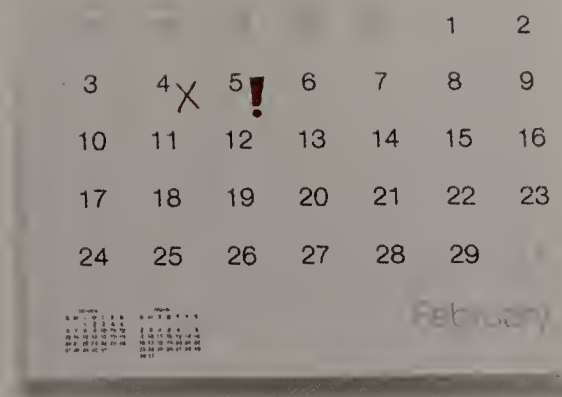
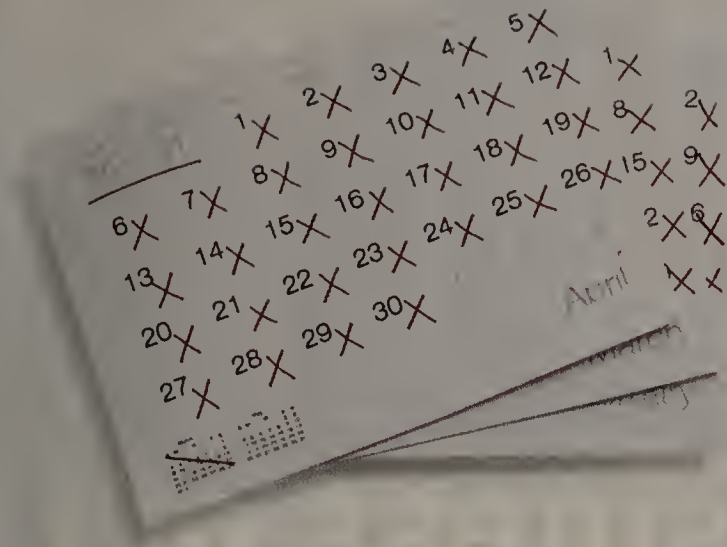
Go online to read our Q&A with Red Hat CEO Jim Whitehurst.

Whitehurst talks about his background and his plans to conquer the enterprise infrastructure market. He also weighs in on Linux desktops, virtualization, Red Hat's role in the future of open source, and of course, Microsoft.

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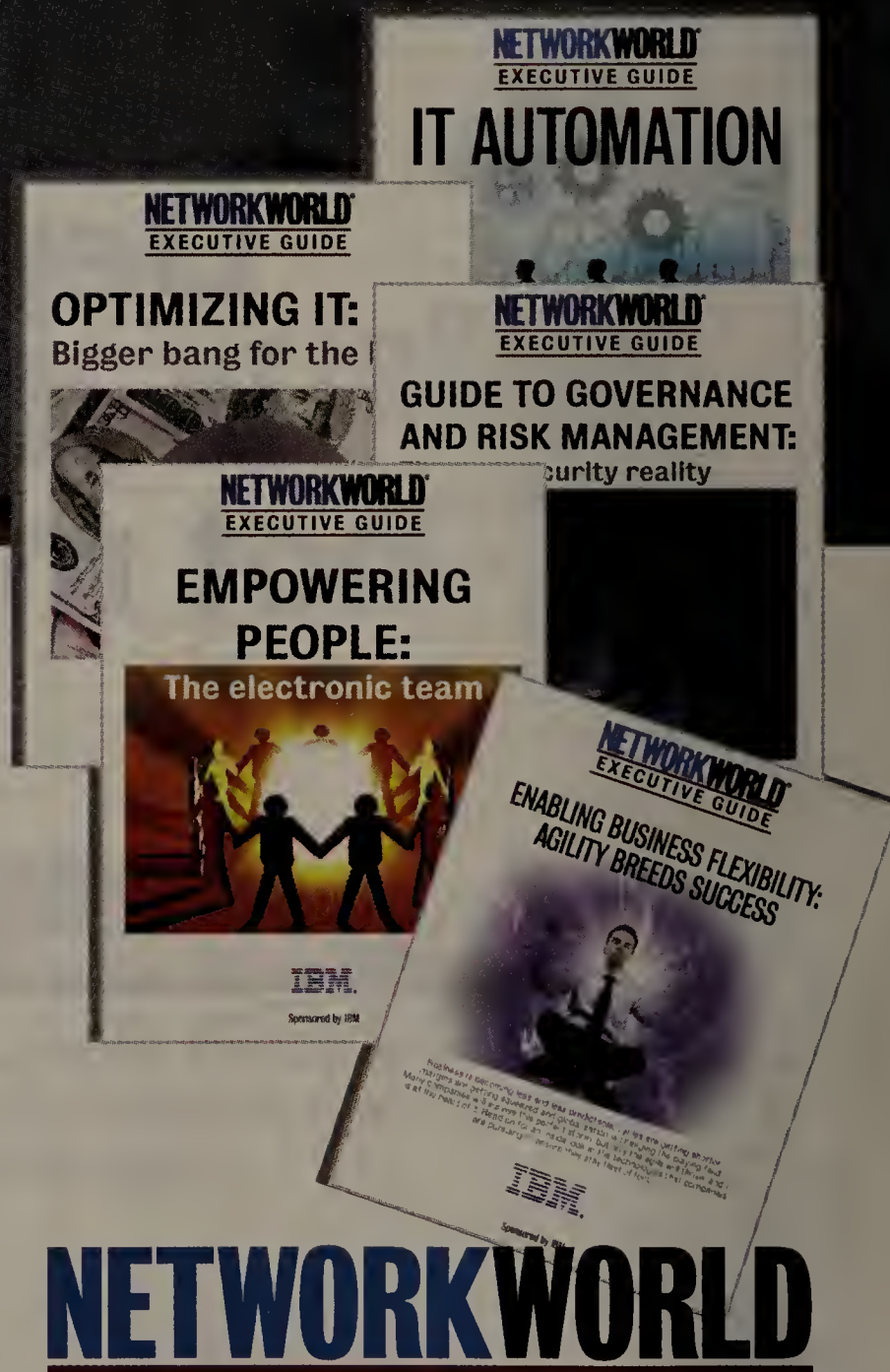
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- Governance and risk management: The new security reality
- Empowering people: The electronic team
- Enabling business flexibility: Agility breeds success



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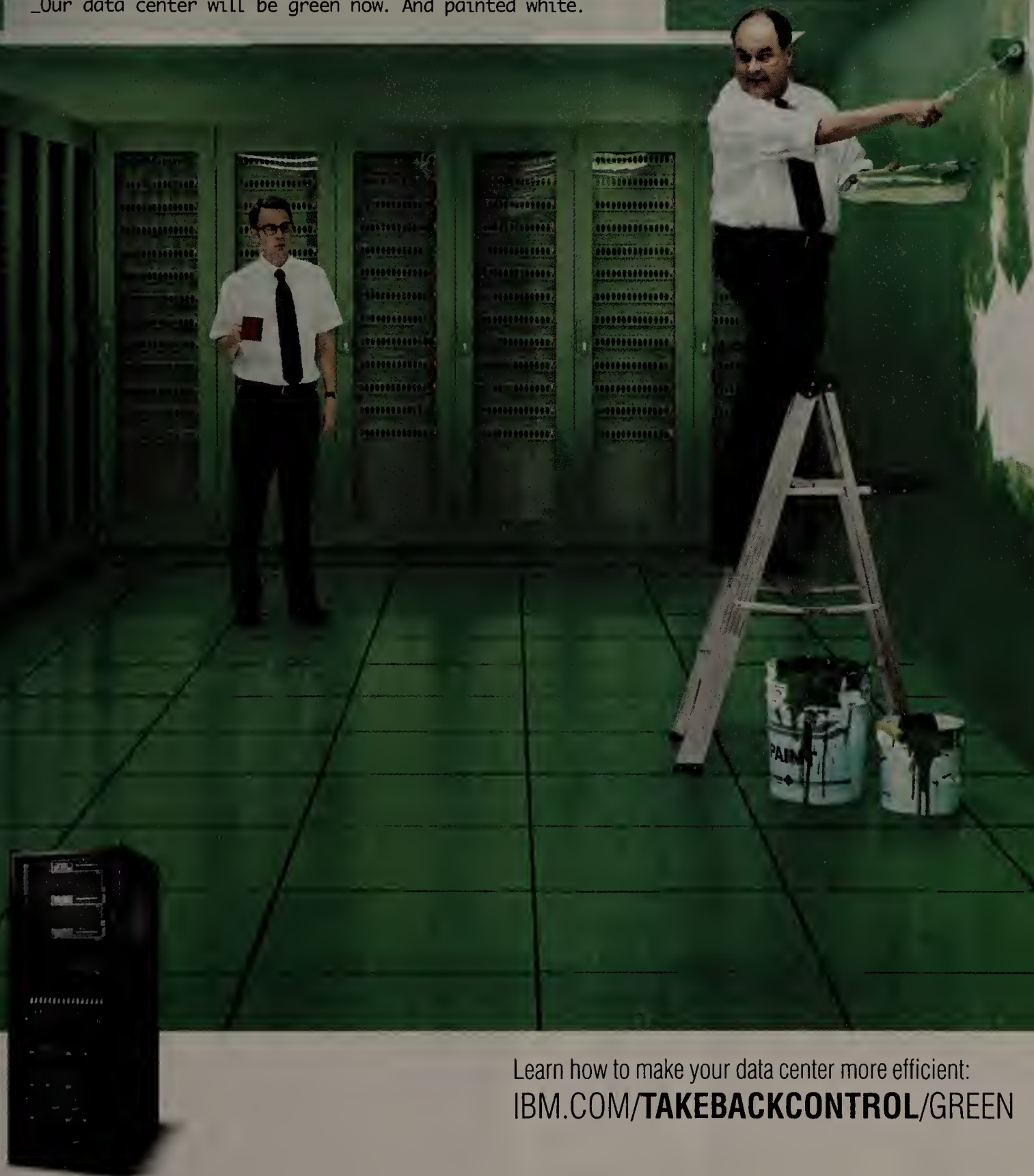
\_INFRASTRUCTURE LOG

\_DAY 89: Our power and cooling costs are out of control. We spend the bulk of our IT budget just keeping the data center cool. I told Gil we need to go green in a big way.

\_DAY 91: Gil took us green...kelly green, to be exact.

\_DAY 93: You don't go green with paint. You go green with IBM Cool Blue™ technology and energy management services. Advanced server and storage virtualization can help consolidate our boxes to lower energy usage. And the new IBM POWER6™ systems help us use less energy doing the same amount of work.<sup>1</sup>

\_Our data center will be green now. And painted white.

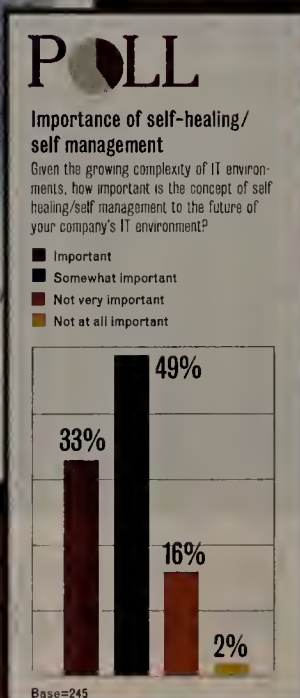
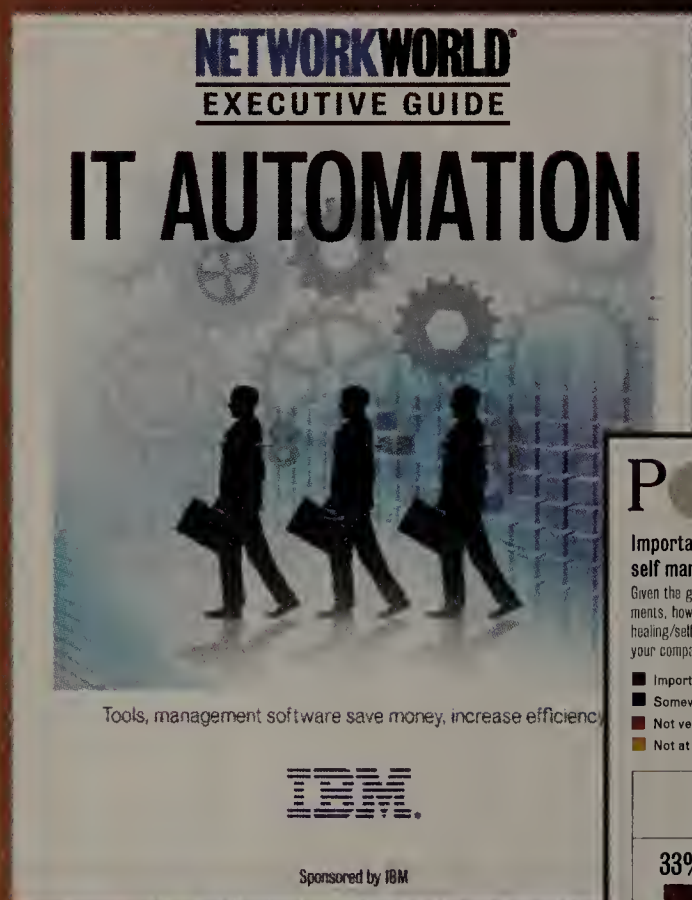


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## Leveraging information: IT for IT, the promise of automation

**FAST FACTS:**

The promise of IT automation has dangled in front of the industry for years, as compelling and elusive as the promise of the paperless office. While there have been some gains, the technology has delivered only basic, task-oriented functions, says David Williams, a research vice president at Gartner. Now the focus is on automating more complex, cross-domain IT processes, he says, and new tools are emerging to aid in that effort. The result: increased efficiency, faster recovery rates, fewer human-induced errors and lowered costs. An inside look at critical developments.

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\_INFRASTRUCTURE LOG

\_DAY 79: Our IT environment is rigid and inflexible. We can't adapt to our changing business needs. Oh no... I was afraid of this. We're so rigid, we're stuck in time.

\_*Infrastructurus prehistoricus*. I've read about this.

\_DAY 80: I'm taking back control with IBM SOA solutions. Now we have the hardware, software and services we need to respond to change. IT strategy, planning and implementation are in tune with our specific business needs. We're deploying and updating business processes faster and more efficiently. We're evolving!

\_Good-bye, rigid past. Hello, flexible future.

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# Optimizing IT: Bigger bang for the buck

IT consolidation efforts, coupled with technologies such as virtualization, storage-area networks, blade servers, grid computing and Linux, are coalescing into a potent mix that can help companies begin to restore the balance of capital expenditures to operating expenditures. Today, after all, it isn't uncommon for companies to be spending 80% of their IT budgets on the latter, leaving precious little to invest in new technology that will move the cause forward. A look at the core technologies making it possible.

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## FAST FACTS:

### POLL

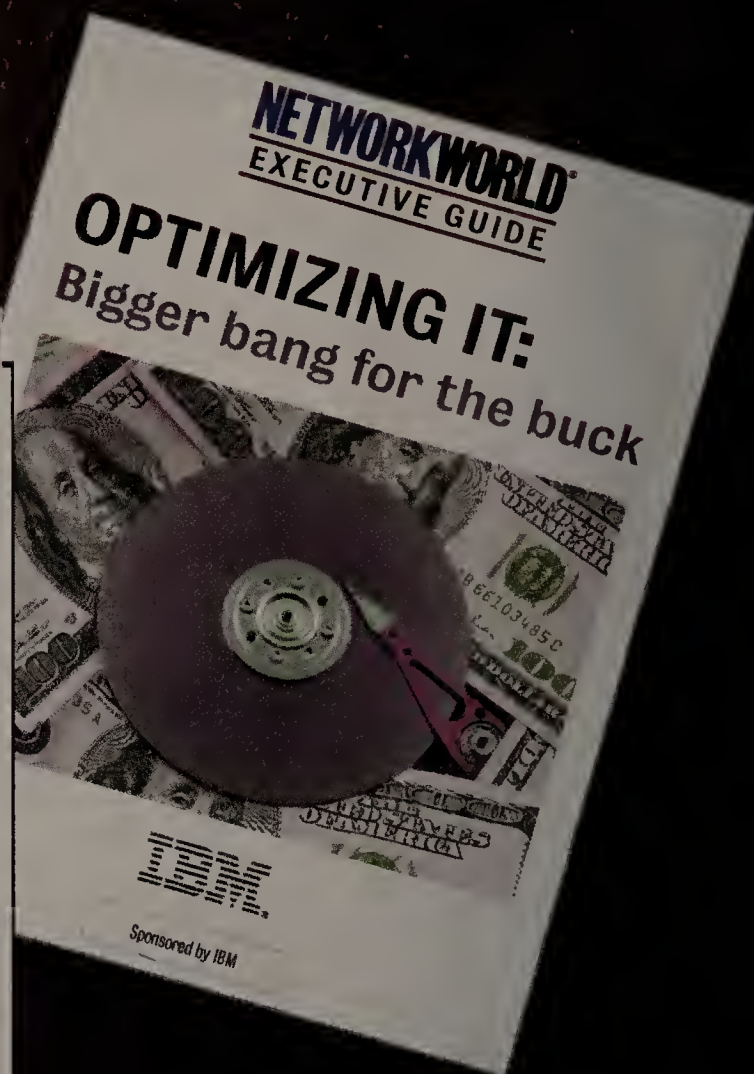
#### Planned Data Center Investments

Which of the following areas does your organization plan to make substantial data center investments within the next three years?

	% Responding
Server virtualization (VMware, Xen, etc.)	64%
Storage virtualization	42%
Blade servers	37%
Open source tools	29%
Grid computing	11%
None of the above	15%

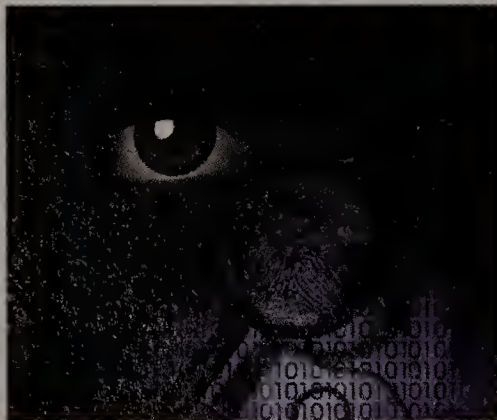
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Source: NetworkWorld



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IBM

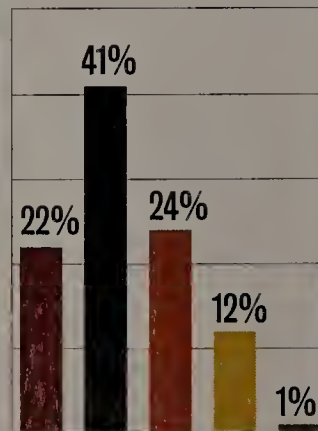
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### POLL

#### Influence of Compliance on Security Issues

Compliance is driving security issues that:

- We were going to do anyway
- We might have undertaken anyway
- We probably wouldn't have gotten around to
- We don't really need
- Other



Base=245

Source: NetworkWorld

# Governance and risk management: The new security reality

While the government now mandates compliance with a range of security practices, big business doesn't need the reminder. Breaches cost millions of dollars, jeopardize the brand and have even put some companies out of business. Compliance is the law, but sound security is now a corporate requirement. An examination of the tools companies are bringing to bear to mitigate risk, comply with government regulations and keep the bad guys at bay.

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IBM

\_INFRASTRUCTURE LOG

\_DAY 62: Everyone's completely overwhelmed by their desktops. People keep flipping between browser windows. The in-boxes are overflowing. So many applications. All the user interfaces are different. How is anyone supposed to collaborate when they're flooded with all this stuff? This is so frustrating. We need to get our heads above water.

\_Gil has grown gills just so he can stay on e-mail longer. Help.



## EMPOWERING PEOPLE:

The electronic team



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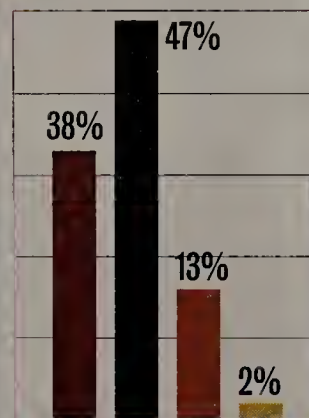
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### POLL

#### Importance of Collaborative Technologies

How important are new collaborative technologies to your company's future productivity goals?

- Important
- Somewhat Important
- Not very important
- Not at all Important



Base=245 Source: NetworkWorld

**FAST FACTS:**

# Empowering people: The electronic team

A host of Web 2.0 and other collaboration tools is making it possible for workers stationed at remote company sites and within partner and customer organizations to work to a single end. Tasks are no longer bounded by who can be ushered into what conference rooms at an appointed hour. Now it is possible to stitch together teams on the fly by quickly ascertaining who is available, who has what knowledge of an issue and who can access what communications capabilities. A look at how companies are empowering their front-line teams.

**GOTO>>** <http://www.idgtechguides.com/nwprint>

# Enabling business flexibility: Agility breeds success

Business is becoming less predictable, cycles are getting shorter, margins are getting squeezed and globalization is changing the playing field. Many companies will survive this perfect storm, but only the agile will thrive, and IT is the key enabler. An inside look at the technologies that companies are pursuing to ensure they stay fleet of foot.

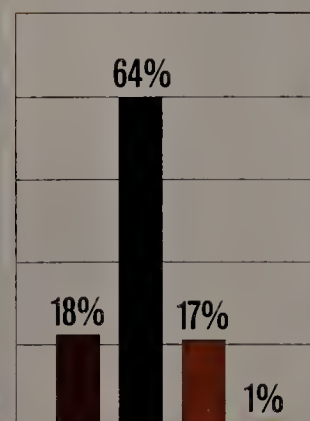
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### POLL

#### Consideration of agility in IT planning

In terms of IT planning, agility:

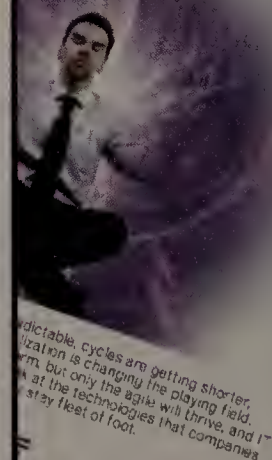
- Is core to everything we do
- Is a key consideration
- Is rarely considered
- Has nothing to do with IT planning



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**FAST FACTS:**

## ENABLING BUSINESS FLEXIBILITY: AGILITY BREEDS SUCCESS



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# Free DNS: Is it worth the cost?

OpenDNS, NeuStar give away services, but buyers worry there's a catch

BY CAROLYN DUFFY MARSAN

If there's no such thing as a free lunch, how can there be a free service that handles a network management function as critical as DNS? That's what corporate IT executives are wondering as they consider two vendors touting free DNS services that supposedly are ready for the enterprise.

Both vendors — OpenDNS and NeuStar — are offering a free recursive-DNS service, which is the type of DNS service that allows employees to surf the Web by typing domain names into their browsers and translating them into the corresponding IP addresses.

The free services don't include external DNS, which is how such Web sites as Amazon.com publish the latest information about their DNS and IP address changes to its customers over the Internet.

The question for corporate IT executives is whether the free recursive-DNS services are too good to be true.

"There really is no reason why you wouldn't go down this road unless you've already invested heavily in an external DNS infrastructure, which is what all the major e-commerce sites have done," says Robert Whiteley, senior analyst with Forrester Research. "The vast majority of the market is still in need of making sure employees have better access to the Web."

## OpenDNS pioneers free DNS

OpenDNS is the pioneer in the area of free DNS services.

Launched 18 months ago, OpenDNS provides what it says is a faster, more reliable alternative to DNS services offered by ISPs. Individuals and companies sign up for the free OpenDNS service, and it handles their DNS queries for them.

OpenDNS makes money by selling advertising on its redirection service. When users type a wrong address in their browsers, OpenDNS redirects them to the most likely site. The redirection page has advertisements. OpenDNS also provides Web content-filtering services and operates PhishTank.com, a community site that fights phishing.

Originally focused on consumers, OpenDNS says its customer base has grown to 3 million users, including 10,000 schools and thousands of small-to-midsize businesses.

"ISPs are not that good at DNS," says David Ulevitch, president of OpenDNS. "That's why a lot of people are starting to unbundle DNS from their ISP. We can offer more features and more control over their network. DNS is the unsung hero of the Internet. When it goes away, it's a massive disaster. But when it works, nobody thinks about it."

## HAPPY 25TH BIRTHDAY

DNS was first discussed by its creator, Paul Mockapetris, in January 1983. It was first tested successfully in June of that year.

OpenDNS counts among its enterprise customers Jackson Public Schools, the largest school district in Mississippi, with 36,000 users. The school district processes as many as 15,000 DNS requests per hour from its students, teachers and administrators.

OpenDNS' service has been "rock-solid for us," says Gavin Guynes, director of information technology services with Jackson Public Schools, which switched from BellSouth's DNS service to OpenDNS a year ago. "We've seen no drawbacks to date."

Guynes says he likes the extra services offered by OpenDNS, including the redirection service and Web filtering. "We're trying to combat spyware, spam and all of that," he says. "People have a tendency to misspell stuff and go to sites they shouldn't. OpenDNS cuts down on a lot of that." Guynes adds that OpenDNS' performance "has been great ... and the reliability has been perfect."

Ulevitch says OpenDNS offers more than recursive DNS services. For example, OpenDNS will announce this month that it's able to block 30 additional Web-site categories, including gambling and social-networking.

"What we're really providing to people is control over DNS, which is what every IT administrator needs," Ulevitch says. "We're trying to give people as much information as possible, including stats about their DNS usage, their top 50 domains. We give them the ability to block Facebook or MySpace. And we run the industry-leading antiphishing service." "OpenDNS is appropriate for any corporate environment. Companies have nothing to lose by trying it out," Ulevitch says.

## NeuStar enters fray

The newcomer to the free DNS arena is NeuStar, which launched its DNS Advantage service in December.

NeuStar operates the .biz and .us top-level domains. In 2006, NeuStar bought UltraDNS, a service provider that offers managed external DNS services. Now NeuStar is offering free recursive-DNS services to the 7,000 corporations that already use its managed external DNS services, as well as any other company that wants to sign up.

NeuStar says a dozen enterprise customers

of its managed external DNS services already have signed up for DNS Advantage. One early customer is InVision Networks, a Burr Ridge, Ill., systems integrator.

"We decided to make the switch from using in-house recursive-DNS services to using DNS Advantage because we were interested in enhancing the overall reliability and performance of the Internet experience for our end users," InVision president Brian Young said in a statement.

NeuStar says it has more DNS servers deployed around the globe than OpenDNS, and a more robust DNS infrastructure to support its paid services.

"We have 20 publicly available DNS servers around the world, as well as locations inside the networks run by AOL, Comcast, Yahoo and AT&T," says Ben Petro, senior vice president of NeuStar Ultra Services. "Our DNS servers are in Equinix locations, with quad Gig Ethernet capabilities and multiple service providers. We have no single point of failure."

NeuStar is using the same DNS infrastructure for its free recursive-DNS service that it uses for managed external-DNS services provided to Amazon.com, Forbes.com and others.

"Seventeen of the top 20 e-commerce sites are on our managed service," Petro says. "They pay thousands of dollars a month for this service."

NeuStar admits it isn't offering free recursive-DNS services as a charity case. The company says the knowledge it will gain about trends in DNS use by offering recursive DNS will help improve the quality of its highly profitable managed external-DNS services.

"Let's assume Amazon.com has a failure within their time-to-live window. That's the window of time they set to change their DNS records. There's nothing they can do. They have to wait for the time-to-live window to expire. But if we manage their external DNS service, we can change their time-to-live window wherever we provide recursive-DNS services," Petro explains. "The more recursive-DNS services we provide, the faster and more reliable our other managed DNS services become. ... Offering recursive-DNS services helps our traffic management and load balancing tools, too."

Petro says NeuStar's DNS Advantage is faster, more reliable and more secure than what ISPs offer. The service includes Web filtering, typo redirection and protection against distributed denial-of-service attacks.

"It's not a gift," Petro says. "It's something that absolutely enables us to improve our managed services. Our [external DNS] customers will pay more if our services are highly tunable all the way down to the recursive level." ■



# How to Protect and Improve System Performance

## The Top Ten Points to Know about Fragmentation

**I**t professionals are heroes of the workplace. Whether with cunning wit or a Phillip's head screwdriver, they solve most any computer emergency. However, keeping a computer running at top speed is usually preventative maintenance instead of last-minute, adrenaline-surgings, virus-vaccinating heroics.

Here are 10 key points to maintain peak performance across any network:

### 1. The hard-disk is the slowest part of any system.

Say you are operating a 2.5 GHz processor. That's 2.5 billion operations every second.



A large number of hard disks only spin at 7200 rotations per minute, or 120 cycles per second, or 120 Hz. This means your CPU is more than 20 million times faster than the hard disk. The hard disk still has mechanical components. Think *Terminator 2*®, when a mechanized Schwarzenegger is outclassed by the faster, smarter T-1000. When the slowest part of your computer is making unnecessary reads, the entire system is dragged down.

### 2. Fragmentation has severe affects.

It's more than sluggish and crawling computer speeds; fragmentation leads to crashes, hangs, data errors, file corruption and boot-time failures. Files that suffer fragmentation are more difficult and take longer to back up. When systems are thoroughly defragmented, they run faster and more reliably—period.

### 3. Real-time defragmentation is necessary.

Many companies rely on 24/7, mission-critical servers. Taking these systems offline for maintenance is not an option. But, having a server with I/O bottlenecks is also not an option. Only real-time, invisible defragmentation fixes this catch-22 situation.

### 4. Give your systems faster-than-new speeds.

NTFS best-fit attempts for file placement on hard drives are limited. Diskeeper® 2008 comes with a new technology called I-FAAST™ (Intelligent File Access Acceleration Sequencing Technology)<sup>1</sup> that re-sequences your files. So, in addition to consolidating free space, defragmenting with Diskeeper boosts access to your

most frequently used files by as much as 80%. I-FAAST gives systems faster-than-new speeds.

### 5. Servers are especially susceptible.



While disk striping improves physical I/O capacity and performance, RAID and SAN systems simply do not fix fragmentation where it begins—at the file system. Enormous volumes with heavy read/write activity lead to astronomical fragmentation rates, making RAID and SAN work harder than they should. The efficiency of RAID and SAN may lessen some of the physical effects of fragmentation, but

Frag Shield 2.0 prevents crash-inducing fragmentation. It's like Superman saving the day—two days before there's a problem.

### 9. Auto-defrag breathes life into systems.

It keeps systems at optimum speeds and eliminates fragmentation-related performance issues. Thoroughly defragging systems adds 2–3 years onto the hardware's useful life.<sup>2</sup>

### 10. Analyze your network's performance.

Poor performance on a remote system can easily be mistaken for a slow network. Get Disk Performance Analyzer for Networks™. This free utility scans networked systems for fragmentation. See for yourself how fragmentation is affecting your systems. This groundbreaking program will provide comprehensive reports on how system speeds will improve with thorough defragmentation. Visit [www.diskeeper.com/nw11](http://www.diskeeper.com/nw11) and get this free, must-have utility.

Diskeeper 2008 is the only fully-automated defragmentation program. It operates invisibly in the background and it

## When systems are thoroughly defragmented, they run faster and more reliably—period.

fragmentation is never eliminated. You'll need to buy more and more equipment to compensate. Sooner or later, the tortoise catches the hare, and your system suffers I/O bottlenecks and slow server speeds.

### 6. Operate without interrupting productivity.

The new InvisiTasking™ technology makes software transparent. Diskeeper 2008 with InvisiTasking will work invisibly in the background; only using untapped resources. Systems are continually improved without any management or impact on a system's usability.

### 7. Defragment despite minimal free space.

The purpose of defragmentation is to restore lost speed and performance. A defrag engine must be able to operate in limited free space, because drives with extremely limited free space are the ones in need of the most help. Diskeeper 2008 handles millions of fragments and can function with as little as 1% free space.

### 8. Stop fragmentation before it happens.

Diskeeper 2008 comes with Frag Shield™ 2.0, a technology that automatically defends against fragmentation of critical system files.

dynamically adapts defragmentation strategies to fit the needs of individual volumes. With new defrag engines, Diskeeper 2008 restores performance on volumes with as little as 1% free space. Get rid of slows, bottlenecks, and fragmentation-induced crashes. Visit [www.diskeeper.com/nw9](http://www.diskeeper.com/nw9)

<sup>1</sup> Available on Pro Premier, Server and EnterpriseServer editions.

<sup>2</sup> See white paper at [www.diskeeper.com/nwpaper1](http://www.diskeeper.com/nwpaper1)

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## IBM exec chats up Google relationship



*IBM and Google might seem like polar opposites in the world of technology, yet the companies have a budding partnership around cloud computing that seeks to combine the best features of business computing with the Internet. Steve Mills, the senior vice president and group executive for IBM's software business since July 2000, explained the goals of the IBM-Google relationship to Network World Senior Writer Jon Brodtkin in an interview this week at IBM's New York City offices.*

*IBM and Google might seem like polar opposites in the world of technology, yet the companies have a budding partnership around cloud computing that seeks to combine the best features of business computing with the Internet. Steve Mills, the senior vice president and group executive for IBM's software business since July 2000, explained the goals of the IBM-Google relationship to Network World Senior Writer Jon Brodtkin in an interview this week at IBM's New York City offices.*

**IBM teamed up with Google last October for a cloud-computing initiative that, in IBM's words, will promote open standards and new software methods "that will drive the growth of the next generation of the Internet." What exactly are you attempting to achieve?**

Let's try to put a little definition around some of this. Broadly defined, this Internet cloud we connect to has a certain set of attributes related to the way in which applications get scattered across it and the way we access them. Google certainly is one of those companies that people identify with in the context of the Internet. They deliver a largely stateless environment to people. The question is whether this highly dynamic type of deployment environment can be made richer [and] more manageable, and [whether] more significant application capability can be dynamically scheduled. Besides having to maintain the state of someone's transaction or activity, you have to persist their data. And finally, you [have to] flexibly schedule those resources to get some of the attributes of this highly dynamic, Google-like environment and still ensure you're running things the way you want to run it, which is typical of the corporate data-center environment.

**So, how will you achieve this merger of Internet and corporate computing capabilities?**

Obviously you've got to catalogue your configurations with greater care. You have to have a comprehensive picture of your resources, so you think about how much storage is required, how much network connection is required, how much compute is required. You have to think about these characteristics of what you're deploying the application to with greater specificity because the application doesn't really

lend itself to being broken up and spread. It needs to have a place to go, and if it's going to perform, its data has to be close to it. That's what you deal with in the enterprise world. That is the concept: How do you apply cloud attributes to corporate computing?

**How extensive will your partnership with Google become?**

It's hard to predict where these things go. We each make money in different ways. Everyone wants to write about the things Google could do in the future, and that creates this aura of the Google possibilities. But as we all know, the business is nearly 100% grounded in the core advertising-revenue-generating model, and many of the incremental services and capabilities they're rolling out are geared more toward the consumer than the business buyer. These kinds of dynamic scheduling of business applications is something where IBM technology can be brought to bear in the context of Google's infrastructure to potentially give them more leverage on where they want to take Google. We look at Google as a customer in this sense: They're a potential customer for our technology. If they build up a more significant delivery capability into businesses, especially small businesses, there might be a business opportunity there for us to work together.

**You talk about changing the Internet. How is it going to be different for the average user?**

The average user is obviously going to be paying attention to what's possible on the Internet, what kind of application services are available, how much more reliable and secure that environment becomes for your data and information. I think everybody is excited about the Web

2.0 and mashup capabilities. This idea that an application doesn't have to exist in one place, but can be a composite of multiple pieces coming from multiple places, is a very powerful model facilitated by Web 2.0.

**Does the software-as-a-service trend pose any challenges to IBM?**

It provides a challenge to us in [this] context: Who our customer is is shifting. Not wholesale, but it continues to move. It moves to a process outsourcer, who then becomes our customer in effect. We need to know who those customers are. Our challenge is to track what's happening and go out and sell our products to them. They're clearly taking the place of what might have been a traditional customer we had been selling to that no longer needs software and hardware to do that job.

**IBM's software group just announced some revenue increases with Lotus, information management, Tivoli, WebSphere and other products. What's been driving this growth?**

We're a \$20 billion software business, so in order for it to grow, the whole thing has to lift. We don't have the luxury of focusing on one area and not others. It is the world's largest software portfolio. We're not as big as Microsoft as a software company, but our portfolio is substantially larger. We don't get the kind of money from a single product like Windows as they do. Windows and Office fuel a huge amount of revenue and profit for Microsoft. We don't have those franchises.

**IBM plans to establish a cloud-computing center for software companies in China. What is driving your emphasis in that part of the world?**

The market in China is advancing quickly. It's a double-digit-growth technology market. You have a lot of businesses there looking at new models and innovative ideas. Obviously it's a market that's not as mature as the G8-country markets. But it's on a rocket in terms of how they're working to leapfrog, therefore there's a lot of opportunity and a lot of interesting project work. ■

■ **Read the entire interview with Steve Mills at [www.nwdocfinder.com/3857](http://www.nwdocfinder.com/3857)**



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**SCRIPTLOGIC**



## Antiphishing

continued from page 1

Fenton, a distinguished engineer with Cisco and one of the authors of the standard. "DKIM isn't going to put an end to phishing, but I'm confident that DKIM is going to make it harder for phishing attacks to occur."

Under development since 2004, DKIM finally is reaching a critical mass. It's expected to be widely deployed this year, particularly in financial services and e-commerce firms. Early adopters include Bank of America, American Greetings and Cisco.

"My guess is that probably half of the Fortune 1000 will be DKIM signing in 2008," predicts Greg Olson, director of product management at Sendmail, which started shipping a DKIM-compliant e-mail appliance in November.

DKIM allows an organization to insert a cryptographic signature in outbound e-mail and associate that signature with its domain name. The signature travels with the e-mail regardless of its path across the Internet. The recipient of the e-mail can use the signature to validate that the message came from the organization's domain name. (See our story on deploying DKIM at [www.nwdocfinder.com/3832](http://www.nwdocfinder.com/3832).)

"Right now, a receiver of a message has no confidence that the message they are receiving is from whom it claims to be from," Olson explains. "DKIM is a way to permit a receiver of a message to validate that a message is, in fact, from whom it claims to be from."

DKIM won't eliminate e-mail fraud altogether, but it will help companies that are targets of phishing scams give their customers a way of ensuring they sent a particular message.

"If the receiver has confidence that an e-mail that claims to be from Bank of America is from Bank of America, then they are not going to worry that someone is trying to steal their Social Security number," Olson says.

DKIM is a merger of two protocols: DomainKeys, which was created by Yahoo, and Identified Internet Mail, which was created by Cisco. These companies along with other messaging vendors and ISPs are working with the IETF's DKIM working group on technical specifications, which are almost done.

The IETF's DKIM working group is still tweaking the Sender Signing Practices (SSP), which is a document that will describe how senders can provide information in their DKIM records for recipients to use in deciding what steps to take with messages received from the sender.

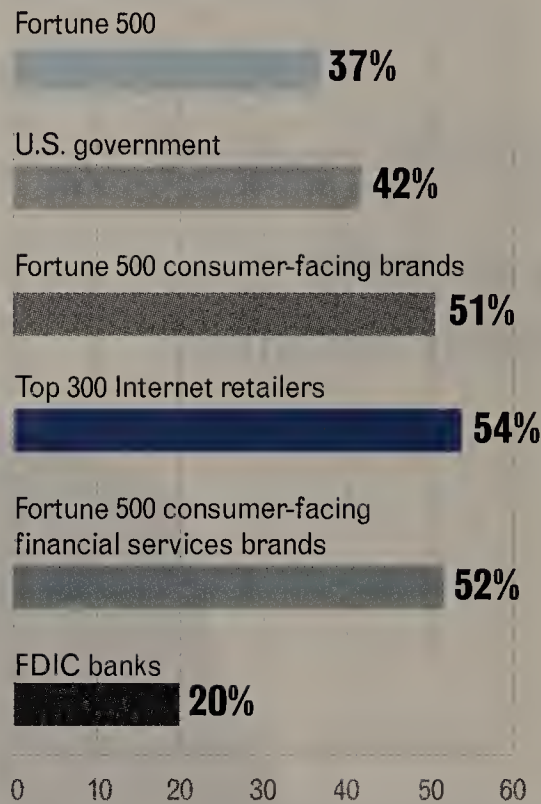
"If I sign all my mail and you get a message that purports to come from me that's not signed, then you can assume that message is not from me," Olson explains. "That policy would be in the DNS record associated with the sender. The SSP is in its 10th draft right now. ... I hope it will be done soon."

Network vendors say DKIM is ready for deployment. In November, 20 ISPs and messaging vendors conducted an interoperability test of their DKIM deployments.

Vendors that participated in the DKIM

## Protecting the mail

Percent of legitimate e-mail sent from organizations that is authorized using DKIM or another approach, dubbed Sender ID:



SOURCE: AUTHENTICATION AND ONLINE TRUST ALLIANCE

interoperability test say the standard works, and that no technical stumbling blocks were discovered.

DKIM-compliant software and appliances are available today from Sendmail, IronPort, Alt-N Technologies, Message Systems, Port25 Solutions, StrongMail Systems and others.

DKIM adoption is accelerating, especially among banks, mortgage companies and insurance companies.

"There will be rapid adoption of DKIM," says Charles Stiles, director of worldwide business development for Goodmail, a certified e-mail service that will support DKIM in May. "The standard is proving to be very successful. The best and brightest people in the world worked on it. It offers up a foolproof, spoof-proof way to authenticate messages."

BITS, a group of 100 of the largest U.S. financial institutions, last year recommended that its members adopt DKIM by October 2008. BITS also recommended two other standards for securing e-mail: Transport Layer Security, which encrypts e-mail messages between servers; and either Sender ID Framework or Sender Policy Framework (SPF) to validate that a received e-mail originates from an authorized mail server within a particular domain. (See our story on Microsoft-backed Sender ID e-mail security technology at [www.nwdocfinder.com/3833](http://www.nwdocfinder.com/3833).)

"What BITS is doing here, with all of its mem-

bers speaking in one voice with such a massive impact, gives people confidence in DKIM," says Patrick Peterson, vice president of technology for IronPort, an e-mail appliance vendor that supports DKIM. "It's unlike anything we've seen" in terms of driving DKIM adoption.

ISPs are adopting DKIM because they want to protect their customers against spam and phishing scams. E-mail senders are trying to protect their brands, identities and customers from phishing scams.

PayPal and eBay have teamed with Yahoo to battle phishing attacks with DKIM. PayPal and eBay are signing their e-mails with DKIM, and Yahoo Mail will block e-mails claiming to be sent by eBay and PayPal that haven't been signed through DKIM.

"eBay and PayPal have always attracted fraudsters, phishers and all that. Our customers see too much e-mail that isn't coming from us," says Mike Vergara, director of account protection at PayPal, which is owned by eBay (read our Q&A with Vergara at [www.nwdocfinder.com/3855](http://www.nwdocfinder.com/3855)). "DKIM takes a good industrywide standards approach. We need to add strong authentication to our e-mails so customers can have confidence that it did come from us. And we need to get ISPs to leverage that so we can say to them: If it didn't come from us, please don't deliver it."

PayPal is deploying DKIM after already rolling out SPF, a complementary Microsoft-backed standard that is an extension to the Simple Mail Transfer Protocol. SPF lets software reject e-mail coming out of forged "from" addresses.

Vergara says the hardest part about deploying DKIM was documenting PayPal's e-mail infrastructure to determine all the systems and domains that send e-mail to customers.

"There's no one postmaster at eBay or PayPal. It took a lot of time to figure out all the e-mails we were sending — transactional e-mails, marketing e-mails, customer support e-mails — and where they were coming from around the world," Vergara says. "Getting our hands around that took us 12 months. Rolling out e-mail appliances and upgrading them to DKIM took a couple of weeks."

Vergara says DKIM works. He says Yahoo has blocked hundreds of thousands — sometimes millions — of messages per day that supposedly came from eBay or PayPal but weren't legitimate because they weren't DKIM signed.

Now PayPal is in discussion with other ISPs to convince them to block messages from either PayPal or eBay that aren't signed with DKIM.

"We can't solve this e-mail fraud problem on our own," Vergara says. "We are trying to light a fire under the ISPs to help us solve this problem for the people who use our services."

DKIM has its limitations. A minority of companies is signing their outbound messages with DKIM, and fewer still are checking for DKIM signatures on inbound mail. But backers of the technology hope this problem will be eliminated as ISPs and banks deploy DKIM. ■



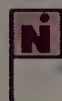
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jointly that combine Nortel's voice technology with Microsoft's application expertise for a unified communications market that was worth \$26.5 billion last year and is expected to near \$50 billion by 2012, according to In-Stat and Wainhouse Research. Six months after forming ICA, Microsoft CEO Steve Ballmer and Nortel CEO Mike Zafirovski updated reporters and analysts with a road map for 2007 and 2008.

Offerings announced at that time included Converged Office, Integrated Branch, Session Initiation Protocol interoperability between Nortel's Communications Server 1000 and Microsoft's Exchange Server 2007, and integration between Nortel's Multimedia Conferencing 5.0 system and Microsoft's Office Communicator 2007.

"We are very much on plan and delivering the products, which were outlined by the CEOs," says Ruchi Prasad, Nortel vice president and general manager for ICA.

General availability of more ICA products is expected to be announced next month at VON.

ICA is viewed as a deep relationship heavy on joint development and product consolidation. Other multivendor interoperability and integration strategies are more superficial. For example, Nortel and Cisco recently agreed to integrate IBM's Lotus Sametime software into their unified communications products, but those are looser agreements of support rather than combined development of new products.

The vision of Cisco, which last year bought Web conferencing company WebEx in a multi-billion dollar deal, is that the network should be the nerve center of a unified communications setup.

Nortel and Microsoft argue that ICA differs from other unified-communications initiatives in that it leverages the ubiquity of Microsoft's enterprise desktop and server software, enhanced with more than 100 years of telecom expertise from Nortel.

ICA is key to Nortel's increasing reliance on software and services for future growth. ICA sales have been a contributor to the company's enterprise division realizing four consecutive quarters of double-digit year-over-year growth, Prasad says. Customers are buying Nortel CS 1000 platforms — the company's IP PBX — integration licenses, services, applications and data products across the enterprise portfolio, she says.

Carriers also are interested in the ICA for their own internal requirements, as well as managed service rollouts, according to Nortel. Swisscom just completed a trial of the CS 2000 softswitch natively integrated with Office Communications Server (OCS) 2007, Prasad says. "Customers ... are looking for Nortel and Microsoft to provide this bridge to the future where voice becomes an application in a PBX-less environment and deliver the road map and take them across this bridge," she says.

Some customers are anxious to try ICA prod-

## Nortel, Microsoft team up

A rundown of the first batch of jointly developed unified communications offerings from the pair:

**Converged Office:** Lets users make VoIP calls, send instant messages or check other users' online presence without having to toggle among applications.

**Integrated Branch:** Includes Nortel's Secure Router 4134 to deploy the Converged Office unification of VoIP, e-mail, instant messaging (IM) and other communications across an enterprise's remote offices.

**Nortel Multimedia Conferencing/Microsoft Office Communicator 2007 combination:** Allows for one client experience across applications such as e-mail, voice, IM, presence, and audio- and videoconferencing.

**Native SIP interoperability across Nortel's Communications Server 1000 and Microsoft's Exchange Server 2007:** Will enable the platforms to share a signaling scheme for unified communications and VoIP sessions that include Microsoft messaging and calendar applications.

ucts. Bruce Meyer, director of network services at ProMedica Healthcare in Toledo, Ohio, is waiting for a video- and audioconferencing system based on Nortel's Multimedia Communications Server 5100 product to save money on travel and on telecommunications services. He expects to see something this quarter or next.

"It's a unique alliance because ... it's more than stamping logos on each others' sales engineers' cards and [shaking] everybody's hand," Meyer says. "I figured 12 months was probably pretty good before we'd really start to know what this could be. Everything prior was two big companies exploring what can we do and can't we do, given our product line."

Analysts caution any ICA sales to date do not include a completed solution.

"What's difficult to understand when they announce a joint customer is what products have come out due to the alliance, and what could have been possible without the alliance," says Elizabeth Herrell of Forrester Research. "I think the way you'll track it eventually — and I don't think we can do it today — is like when OCS comes out with baked-in telephony features that are from Nortel. Then we'll see if they have a fully integrated solution as opposed to solutions that are joined with gateways, etc."

Herrell expects several ICA announcements

this year that will demonstrate the gradual integration of the companies' products. A single software system for unified communications will appear in 2010 when the alliance concludes, says Zig Serafin, general manager of Microsoft's unified communications group.

With this software, customers will be able to evolve from the Nortel Communications Server 1000 and 2000 IP telephony platforms to an OCS call-management system enhanced by Nortel telephony feature modules, he says.

It will be one software system "utilizing IT infrastructure and management tools people have been used to in the Microsoft environment," Serafin says.

Some analysts believe this goal puts the future of some Nortel software products in doubt.

"I don't think it's added a lot to Nortel's credibility," says Zeus Kerravala of the Yankee Group. "In many ways, it's added a lot of questions: If you were a customer of Nortel's before and you invested in things like their unified messaging software, should you indeed continue to invest in Nortel software? When you look at this alliance, a lot of it seems to indicate that that's going to fall Microsoft's way."

Nortel says CallPilot, its unified messaging software "will continue to serve our customers' needs whenever appropriate."

"Nortel must be able to provide messaging to customers outside the ICA agreement," a spokesman says. "Where industry consolidation has occurred and multiple e-mail platforms exist, CallPilot can bridge across the systems providing [unified messaging] to all users regardless of e-mail system. Nortel also sees some vertical markets with requirements to store voice and fax messages in a separate repository from e-mail, which is a key component of CallPilot's architecture."

The long-term future of Nortel's CS 1000 IP PBX may not be as secure, the company indicates. "Software-based VoIP is the future of voice, and Nortel is working aggressively with Microsoft and others to enable voice as an application," the spokesman says.

"That said, the transition to that vision will happen over time. While software-based voice solutions like Microsoft OCS may be appropriate today for some businesses, most enterprise customers will not be ready to trust their voice needs to such major network transformation," the spokesman adds.

While product rationalization plays itself out, the alliance's more immediate goals are to ramp up the number of integration-services specialists trained in ICA products. The companies want to double Nortel's 300 Microsoft-certified engineers over the next year and triple it in two years.

Nortel currently holds 23% of all Live Communications Server certifications and 40% of all OCS certifications, Prasad says. Indeed, the ICA alliance makes Nortel a significant channel for Microsoft as it looks to attain leadership in enterprise VoIP, IP telephony and unified communications. ■





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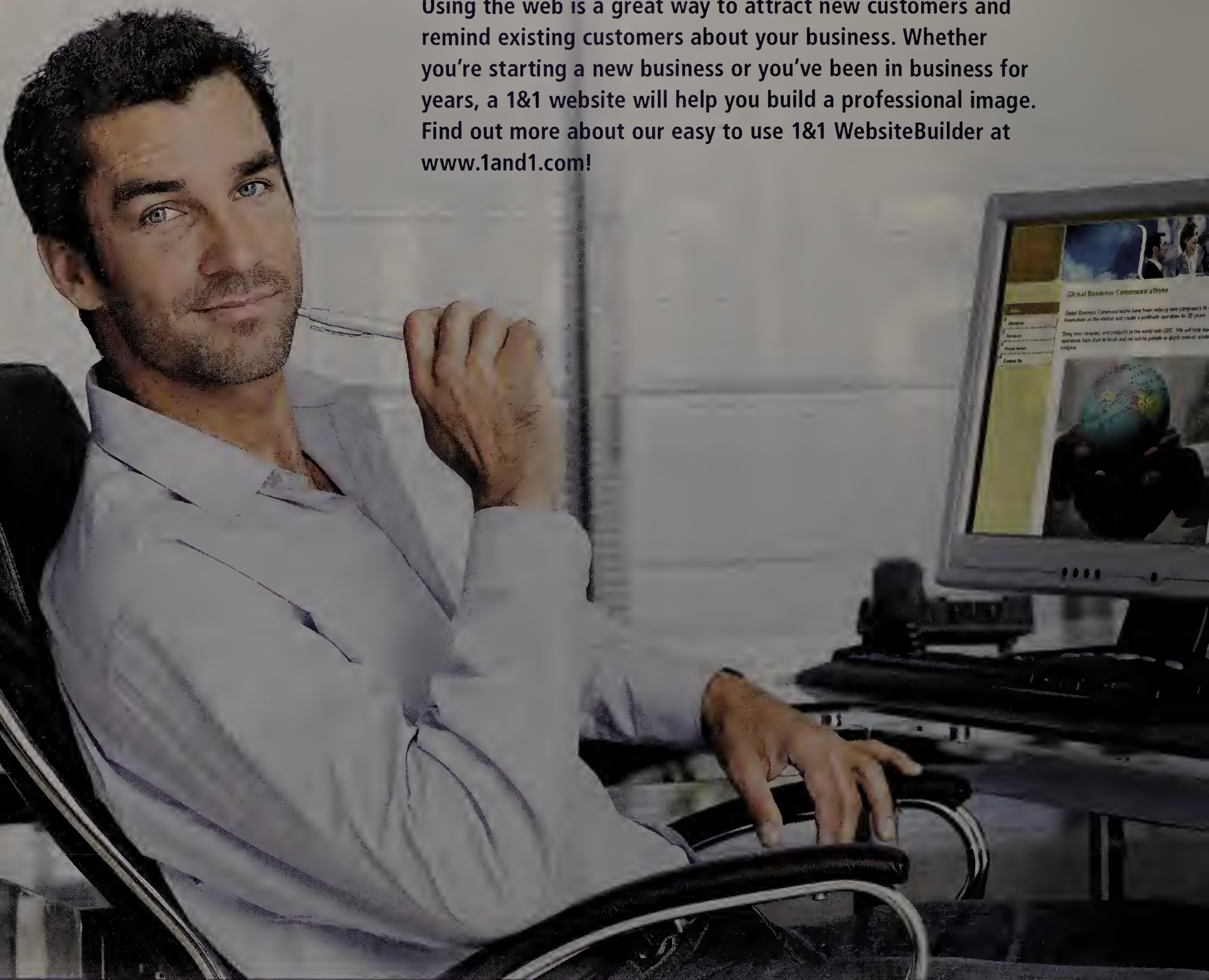
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# What a fragile communications web we've woven



**NET INSIDER**  
Scott Bradner

**A** ubiquitous Internet requires ubiquitous connectivity, and we are doing quite well in this arena. Of course, there are significant parts of the world and of the United States where there is far from enough transmission capacity, but those

areas are shrinking every day.

What we don't have in too many places is the real redundancy required for high reliability.

This is the case for most enterprises and too many countries. Few enterprises have set their networks to include redundant connections to sites or buildings, never mind redundancy to phone closets. Quite a few do have redundant Internet connections, but in many cases these connections share common or adjacent physical facilities (for example, fibers or conduits). Even when an enterprise has paid the local phone company for physically diverse redundant paths I know from personal experience that the phone technicians will come along at some point and "fix" the silly longer path so that it is shorter, faster and more efficient and — it just so happens — in the same fiber as the other link.

This lack of redundancy within enterprises, and thus a potential lack of reliability, have led

many telecom experts to conclude that VoIP will never be a major enterprise telephony solution. That conclusion mostly seems to come from old-line telephone folk who also think that VoIP will never be useful without central quality management. (I heard that argument as recently as two weeks ago.) But they tend to ignore the very high reliability of modern network equipment and the near ubiquity of cell phones. Even if your VoIP desk phone were to die, you still can call on your cell phone. In this case, the redundancy of two unrelated communications systems providing the same service provides for almost perfect reliability.

What got me thinking about redundancy was the recent story that a good chunk of the Internet connectivity for the Middle East and South Asia died due to breaks in undersea cables. In this case there were two cables from different companies that were running under the Mediterranean Sea near each other. Something cut both cables, maybe a ship's anchor dragging in rough seas. This was a case of theoretical but not quite real cable redundancy. As I write this, some connectivity is

returning as ISPs switch to satellite paths. But, because 95% of all transoceanic and similar connectivity is through fiber cables it can be a big hit when a cable gets cut and worse when more than one is involved.

This is not the first time recently that something like this has hit Internet connectivity via undersea cables. A bit more than a year ago an underwater earthquake broke nine submarine cables, disrupting Internet service all over the Far East.

Clearly the Internet is important enough to international communications that more thought will have to be paid in the future to achieving real divergent-path redundancy. For example, linking the two cables to others to create rings around the globe — a break might make the traffic take the long way around, but the setup would keep things going.

In the old days, phone regulators would just say "do it." It would be done and the prices raised to pay for it. That is no longer the way things work, much for the better in almost all cases, but maybe not in this one.

Disclaimer: Harvard does not grok "just do it" and instead assumes "proper discussion" is required for everything. In any case, the above discussion about redundancy represents my own opinion.

*Bradner is Harvard University's technology security officer. He can be reached at sob@sobco.*

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# What those oceanic cable cuts mean to you



**EYE ON THE CARRIERS**

Johna Till Johnson

**F**orget the Super Bowl. Ignore the presidential primaries. For network geeks, the really big news recently was the cable outages in the Mediterranean, which disrupted Internet connections to Europe and the Middle East. The outages have raised a host of questions about the vulnerability of the Internet and the plans enterprises should have in place to protect themselves from the consequences. Here are some frequently asked questions — and the answers.

### Is it likely the cable cuts were intentional?

**And more importantly, are we at the dawn of a new era of "cable terrorism," in which malcontents try to disrupt global communications via cable cuts?**

Nope. Cutting cables is a lot more difficult than it looks. For one thing, you have to first locate the cables — no small feat when they're somewhere in the middle of an ocean, under miles of water. Even with the latest-and-greatest technology, this is no easy task. According to the delightful book *Blind Man's Bluff*, the United States spent a fair amount of time in the 1960s and 1970s attempting to locate and tap Soviet cables. Although there reportedly were noteworthy successes, they required decades of focused effort and investment in a fleet of nuclear submarines. Terrorists have easier ways to make trouble.

### Should enterprises protect themselves against cable cuts by multihoming?

Again, no. Multihoming — connecting to more than one ISP — achieves Layer 3 diversity, but ignores the fact that when it comes to

transoceanic links, traffic from different ISPs typically is consolidated onto a single set of pipes. In other words, just because you're connecting to both Sprint and Verizon, for example, doesn't necessarily mean your traffic is traversing the Atlantic on different optical cables.

### What's the best way to ensure redundant connectivity?

Ask your carriers for cable routes. Keep a current map of planned and deployed transoceanic cables on your wall, and get confirmation from your providers regarding which of those cables they're using. (Here's a really good trick: Get a laminated map and mark it up with erasable markers to show which cables your providers are relying on.) For mission-critical sites — such as data centers and call centers — make sure you've got minimally two- or three-way redundancy. Satellite services may be an option for remote sites — but latency can hammer real-time applications (such as voice, video and interactive applications).

### Are there any other impacts and issues?

Yes. When outsourcing, you need to recognize that not all geographies are created equal. If you're debating whether to place your data center or contact center in, for example, Dubai or Singapore, make sure you check on the cabling redundancy. And keep in mind you're not thinking just about vulnerability to accidental cuts — you'll want to ask yourself how vulnerable the networks are to natural disasters (tsunamis, hurricanes and earthquakes) as well as political instability. Power availability is another key factor.

The bottom line? Although we're increasingly accustomed to living virtually, don't forget: The physical world still matters.

*Johna Till Johnson is president and senior founding partner at Nemertes Research. She can be reached at johna@nemertes.com.*



# Tech valentines from hell



**YANKEE  
INGENUITY**  
Howard Anderson

**A**n errant Valentine Mail Server inadvertently forwarded me a bunch of Valentines for other people. Given your quirky nature, I thought I would share.

To: Larry Ellison, Oracle CEO  
From: Larry Ellison  
"Roses are red,  
violets are blue,  
There is no one I love,  
as much as you"

To: Kevin Martin FCC chairman  
Fr: Brian Roberts, Comcast CEO  
"Want us to go  
to 'smorgasbord' cable?  
Your home connection  
we just disabled"

To: Gary Forsee, ex-CEO, Sprint  
From: Sprint customers  
"Sprint and Nextel,  
Nextel and Sprint,  
Our service is so awful,  
our remarks please don't print"

To: Nicholas Negroponte, One Laptop Per Child chairman  
Fr: Paul Otellini, Intel CEO  
"Roses are red,  
violets are blue,  
You hate me,  
I hate you"

To: Steve Jobs, Apple CEO  
From: God  
"Your Iphone I love  
your IMac's the way,  
But even I rested,  
the Seventh Day"

To: 130,000 downsized employees  
Fr: Sam Palmisano, IBM CEO  
"Your job's OK,  
your job's secure,  
Just be ready to move,  
to Bangalore"

To: Carly Fiorina, ex-HP CEO  
Fr: Mark Hurd, current HP CEO  
"Some are called,  
some are chosen,  
You showed me the way,  
your pension's frozen"

To: John Chambers, Cisco CEO  
Fr: The Cisco Users Group  
"Your technology is great,

it's really a buy,  
Your service is so high,  
I could just cry

To: Joe Tucci, EMC CEO  
Fr: Steve Ballmer, Microsoft CEO  
"You're ticking me off  
I'm calling a cop,  
This virtualization stuff  
has got to stop"

To: Steve Ballmer  
Fr: Jerry Yang  
"\$31 is an Insult!  
but \$35 would be nice  
I'll forgive the insult,  
just meet my price"

To: Jerry Yang  
Fr: Steve Balmer  
"A 62% premium!  
our bid has not changed,  
If Google goes higher,  
they must be deranged"

To: Sergey Brin (Google co-founder)  
Fr: Larry Page (Google co-founder)  
"Everyone thinks we're  
joined at the Hip,  
Stop hogging the G-5  
or get a Fat Lip"

To: Paul Jacobs, CEO, Qualcomm  
Fr: Broadcom  
"Roses are red,  
violets are blue,  
Thank God you are around,  
we need someone to sue"

To: Jeff Bezos, CEO, Amazon.com  
Fr: Kindle Users Everywhere  
"Kindle's OK,  
it's not an w-reader,  
A portable Web browser,  
would be a crowd pleaser"

To: Bill Gates, Microsoft chairman  
Fr: the Pope  
"The Nobel's a lock,  
they gave one to Gore,  
Hold out for sainthood,  
then ask for more"

To: Ray Ozzie, Microsoft CTO  
Fr: Microsoft users  
"You got the cat seat,  
you're making big bread,  
Good luck to you,  
the desktop's so dead"

*Anderson is the William Porter Distinguished Lecturer at MIT. He is the founder of The Yankee Group and the co-founder of Battery Venture Capital.*

## Dell/EMC partnership will be tested by EqualLogic deal

**BY JON BRODKIN**

Dell and EMC are good friends when it comes to selling joint storage products, but Dell's acquisition of IP storage-area-network vendor EqualLogic could create some tension in that relationship.

Dell recently completed the EqualLogic acquisition and last week announced the first products resulting from that buy during an event for journalists and analysts at EqualLogic's headquarters in Nashua, N.H.

The Dell EqualLogic PS5000 Series storage-area-network arrays boast built-in virtualization, plus management capabilities including remote replication and thin provisioning; and the ability to create multiple tiers of storage in a single SAN while optimizing each tier for the application it serves.

Brad Anderson, Dell senior vice president of commercial products, contends that the EqualLogic products are "complementary" to those offered jointly by Dell and EMC, but pointedly said Dell won't use any EqualLogic technology to enhance Dell's EMC product line.

While the Dell/EMC partnership remains lucrative for both companies, Dell can be expected to put more emphasis on Equal-

Logic's product line, Forrester analyst Andrew Reichman says.

"In the long term, there is the potential for some conflict and some overlap, and maybe rationalizing the product line down into fewer models," Reichman said, following a panel discussion he lead at the Dell-hosted event. "You have to figure the emphasis [for Dell] is going to be on what it owns. I think Dell will have to pick a direction."

"Our intent is to grow our 3,700-customer network into tens of thousands of customers at Dell," said John Joseph, the vice president of marketing at EqualLogic who is now taking on the same role at Dell.

The Dell/EMC joint product line is composed of the AX series and CX series.

Anderson stressed the differences between the EqualLogic and Dell/EMC product lines, saying EqualLogic is ideal for midrange customers, particularly those looking to virtualize storage.

The Dell/EMC products provide Fibre Channel and iSCSI, and may be preferred by customers who have standardized on Fibre, want Fibre at an entry-level price point, or simply prefer the EMC "family values," he said. ■



# Guidelines for setting retention policies

BY PAUL D'ARCY

**A**s if IT managers aren't busy enough, new regulations and changes to the Federal Rules of Civil Procedure now make them the protectors of electronically stored information.

Legal departments are turning to IT leadership to manage the retention, deletion, and search and recovery of electronic information. For IT management in large companies, this means tracking billions of e-mail messages, database records and desktop files as they move across tens of thousands of servers and desktop computers.

In many organizations, figuring out what to keep is as difficult as managing the data itself. Here are 10 guidelines for the retention and deletion of electronically stored information that may help.

**Start by looking in the mirror.** When it comes to the retention of electronic information, businesses have a tremendous amount of latitude. While the new Federal Rules of Civil Procedure make it advantageous to have a policy, they don't govern how long data needs to be held. So, if you are worried about e-mail and other information, delete it quickly. If you think it is valuable to your business, keep it for as long as it is useful.

**Don't let users determine what you keep.** If you are letting users decide which messages and documents are kept, you don't have a retention policy. Good retention policies automate the preservation of electronic information and mandate the destruction of documents in accordance with policy.

**Remember the regulations.** There are thousands of city, state and federal rules that require retention of electronic records — Occupational Safety and Health Administration regulations, the Sarbanes-Oxley Act, and the Fair Labor Standards Act are examples. While a 60-day e-mail retention policy may be the right strategy for litigation, you'll need to make sure your policy includes exceptions where regulations require longer retention rules.

## Got great ideas?

■ *Network World* is looking for great ideas for future Tech Updates. If you've got one, and want to contribute it to a future issue, contact Editor in Chief John Dix ([jdix@nww.com](mailto:jdix@nww.com))

**Understand the cost of litigation.** According to the international law firm Fulbright and Jaworski, the average billion-dollar U.S. company is facing more than 500 discrete lawsuits. The electronic discovery for a single lawsuit can cost hundreds of thousands or even millions of dollars. If mistakes are made, litigation can be lost on process grounds, regardless of the merits of the case.



**Take advantage of safe-harbor provisions.** New court rules allow organizations with standard retention policies to delete information unrelated to the case with impunity. If you don't have a formal retention policy, the deletion of information may be held against your organization in court.

**Prepare now for electronic discovery.** When litigation starts, electronic discovery soon follows. Companies often have only a few weeks to scour billions of messages and files for relevant data. If you are not prepared for e-discovery, the costs of manual search and recovery can be staggering.

**Start where the lawyers start — e-mail.** While all types of electronic records are subject to retention and discovery — database records, files on servers and personal computers, electronic communications, CAD files — not all are equal targets when litigation begins. When it comes to managing electronic information, companies should be smart

and start where the lawyers start: with e-mail. As one lawyer said, "e-mail is where the juicy stuff is." Only e-mail includes important documents sent as attachments with unguarded narrative context provided by employees. Lawyers know how to find the good e-mail messages for a case, so it's usually where they look first.

**You need one retention policy today.** Even before litigation happens, courts require companies to protect potential evidence from unlawful destruction or spoliation. "Litigation holds" are the one retention policy that no company can afford to ignore. Because evidence can be in the past or future, organizations need to put processes and technology in place to protect e-mail and other records from destruction during litigation.

**Invest in process and technology.** Effective retention-policy management requires both new processes and new technology. To implement a retention policy you can defend, you will need to put clear, written standards in place and plan on extensive ongoing user training. You will need to implement processes that look for violations and immediately correct problems. For electronic communications such as e-mail, process is not enough. With millions or billions of messages to manage, most companies require a third-party archiving service or software to manage the collection, retention and deletion of individual messages.

**Electronic information is hard to destroy.** Everyone knows that electronic information can be duplicated endlessly throughout the enterprise with a simple click of the button. E-mail messages, for example, often sit in multiple systems and on backup tapes that must be managed simultaneously to ensure compliance with complex retention policies. If you delete messages from one system and leave them on another, they are still subject to electronic discovery.

By following these 10 guidelines it is possible to create a retention policy that meets business needs and government requirements and significantly reduces litigation risk. Creating a policy won't be fun, but this task is part of the reality of IT managers' new role as the protector of electronically stored information.

*D'Arcy is vice president of marketing at MessageOne. He can be reached at [Paul\\_darcy@messageone.com](mailto:Paul_darcy@messageone.com).*



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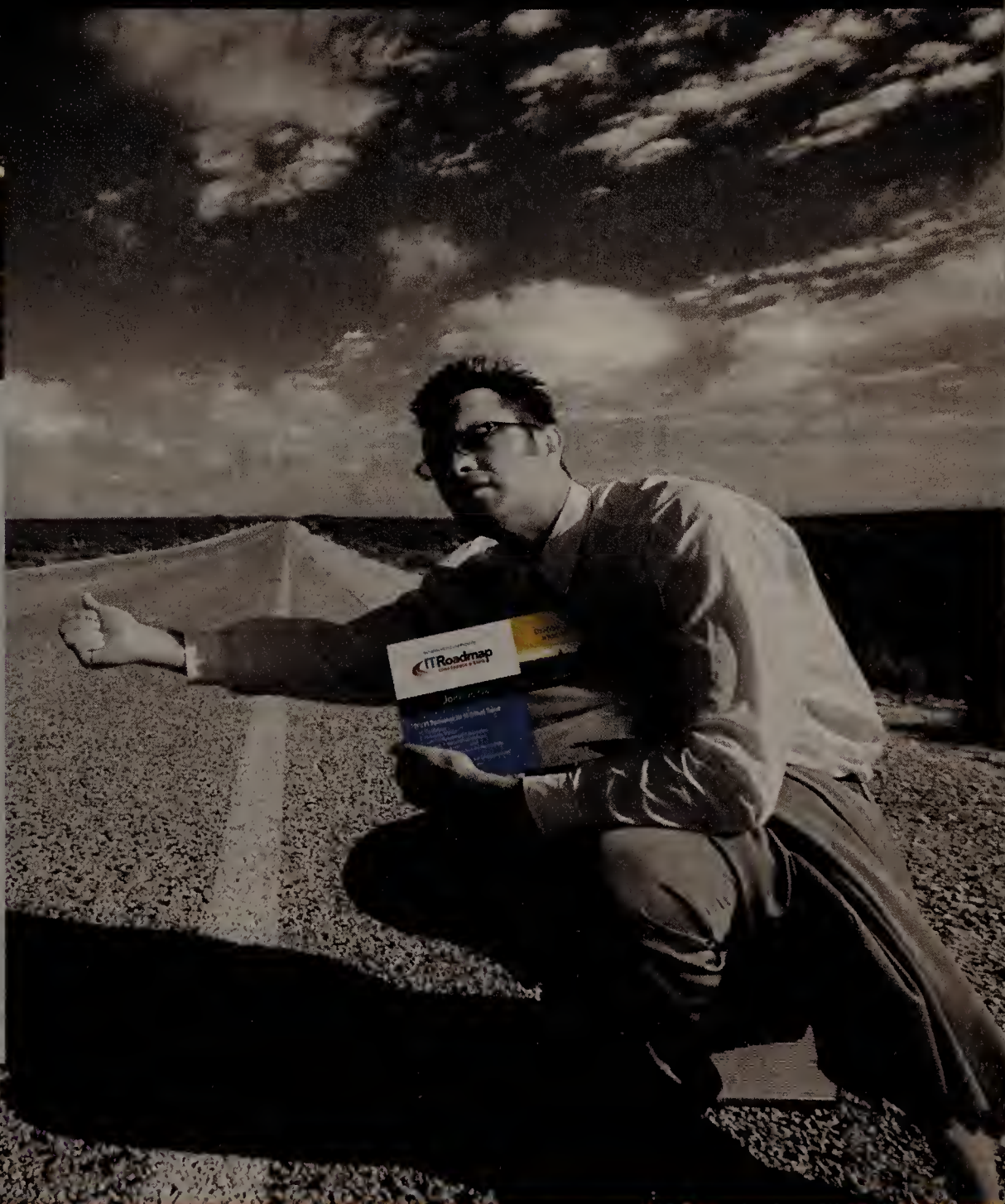
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## GEARHEAD

Mark Gibbs

# Wrangling XML data to CSV

In the last three weeks I've discussed my search — nay, quest — for a Web shopping cart that integrates with Quickbooks and my struggle — nay, Herculean battle — with Network Solutions' Pro E-Commerce shopping cart service.

As a result of my criticisms I was contacted by a senior engineer who couldn't really help. Then, after I wrote last week's Gearhead, I was contacted by two Network Solutions big-wigs: Shashi Bellamkonda, senior product manager, and Jeff Zimmerman, vice president, E-commerce Products.

We had a good discussion, or perhaps more accurately, I had a good rant. One thing that became clear is that Network Solutions' lack of documentation is perhaps its biggest problem, with the various deficiencies and bugs I've discussed coming in a very close second.

That said, among the solutions recommended by my hosting company Intuit, Network Solutions is still, as far as I can determine, the best option. Although that's a little like saying an SUV with three wheels is better than one with two wheels, but still ....

It turns out there is another approach to a major problem I had with the Network Solutions services: how to get order data into the specific comma separated variable (CSV) format a fulfillment company can use.

Until my discussion with the Network Solutions gentlemen, the only export format that appeared to be available for conversion was the e-mail message that is sent to the administrator when an order is accepted.

As I discussed last week, the HTML formatting of these order messages provides some structure for data but not enough to make the translation easy or to ensure that it would be error free. The alternative was the CSV export feature that Network Solutions provides, but this is just a weird,

somewhat useless summary of orders.

There is also XML as an alternative export format for orders, but I hadn't tried it because I assumed it would provide the same data as the CSV export. But the XML version actually contains all of the order detail! The gentlemen from Network Solutions admitted that this is, in fact, not documented, but stopped short of admitting it was irrational that there was a difference between the content of the two formats.

So, now that I have a chunk of XML, how am I going to translate it into the CSV format required by the fulfillment house?

Back when I thought I'd have to wrangle the content out of e-mailed orders, I did some research and found an interesting tool called Message Parse that looked promising. Message Parse (\$80) is designed to extract data from messages and export that data to useful formats. You define what delimits each of the fields you're interested in and Message Parse parses the message content looking sequentially for your fields and assembles the results to create the output.

Great! ...except Message Parse only works on messages it retrieves from POP3 mailboxes, while I have a downloaded XML file to work with.

I suppose I could copy the XML content into an e-mail message, send that to an account to be used by Message Parse and have it extract the data, but that would be sort of ridiculous.

I've looked at all sorts of XML tools but I've yet to find one that can do this job without involving serious technical overkill. Suggestions?

So, what was it that I had planned to discuss this week? Oh yes, what e-commerce solution readers have recommended. We'll have to leave that for next week.

*Gibbs wrangles technology in Ventura, Calif. Join the roundup at gearhead@gibbs.com.*



Keith Shaw

## COOLTOOLS

# Sprout and blist impress with betas

Last week I highlighted some of the new products and services from DEMO 08 that let regular people do things that previously required professional assistance. This week I'm highlighting the beta offerings of two services.

Sprout's Sprout Builder Web service and application lets anyone — even those without a lick of Flash programming knowledge — create rich-media widgets (Web-enabled applications) and other Flash content. Using templates and a very intuitive drag-and-drop interface, an inexperienced designer can create a widget quickly that can be added to an existing Web site or blog, or distributed to different social-networking sites (including Facebook and MySpace) and gadget-distribution sites (including iGoogle).

In about an hour, I was able to create a Flash widget that highlighted the latest episodes of the *Network World* podcasts, including each show's description (using an RSS feed template), an embedded audio player and the show's logo. I was able to program buttons on the player that would advance to the next "slide" in the widget, which is the next podcast show I want to highlight.

Because the site is still in beta, there are a few rough edges, and some features are missing that I'd like to see. For example, it would be great if the audio player template let you put in an audio XML stream instead of a specific MP3 file or URL. Hopefully my feedback to the site will mean improved features as the site continues.

Blist has even more ambitious plans with its service, which aims to turn regular people into data-

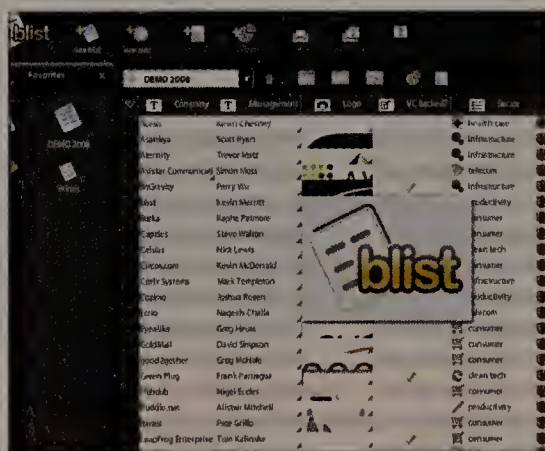
base experts. Its online database-building tool is intended to help users create the "world's easiest database," using visual and intuitive user interfaces that allow them to manipulate their data more easily. The company's goal is to make relational-database creation and management as easy as using a spreadsheet.

Because blist is a Web tool, it offers features not normally found in database programs, including adding embedded photos to a field; telephone numbers with icons to a phone-number field (for cell phone, work phone and so forth); and a "star rating" field that lets people rate their data (great for creating a movie database, for example).

Like Sprout Builder's beta, the blist beta is missing some features, including the ability to import data from Excel spreadsheets or Access databases — absolutely critical in my opinion.

By no stretch of the imagination do these new tools mean the end of

Flash programming wizards, database gurus or graphic designers. I believe these tools will enhance and complement those professionals' efforts. Using Sprout, regular users can build a widget and show their concept to a Flash developer, who can look at it and make improvements, then integrate it into existing systems. Instead of sitting in meetings where the business side tries to explain what they want, developers can hand over the widget and say, "make this better." In addition, these widgets might be good enough that Flash developers and graphic designers don't need to get involved, reducing their workload and giving them time to work on more advanced projects.



**Blist aims to make database creation simple.**

*Shaw can be reached at kshaw@nww.com.*



## Part III: Taming the virtual beast

Tools from Onaro, nworks, PlateSpin, Virtugo tackle different pieces of the VM management puzzle, but there's no silver bullet

BY TOM HENDERSON AND RAND DVORAK, NETWORK WORLD LAB ALLIANCE

In our latest set of test of virtual-machine management tools, we examined VM-host-centric management, planning and accounting applications from PlateSpin and Virtugo Software, a VMware plug-in for the Microsoft Operations Manager application from nworks, and a storage-area-network management tool from Onaro (which Network Appliance has just acquired) that offers specialized insights into the virtualized world.

We also tested the management wares that come as part of Parallels (formerly SWSOFT) Virtuozzo virtual application platform (see page 45), and we assessed the usefulness of Reflex Technologies' VM intrusion-protection system (see page 44).

In previous tests, we analyzed the management capabilities offered by the major VM vendors ([www.nwdocfinder.com/3621](http://www.nwdocfinder.com/3621)) and reviewed third-party management tools that have specialized conversion capabilities and VM instance-building ([www.nwdocfinder.com/3622](http://www.nwdocfinder.com/3622)). The tool tested to date that offers the broadest range of management features is the open source Hyperic HQ tool set ([www.nwdocfinder.com/3623](http://www.nwdocfinder.com/3623)).

We've identified six key areas that need to be addressed to make VM management workable in a large deployment (See the sidebar "What needs to be managed" at [www.nwdocfinder.com/3624](http://www.nwdocfinder.com/3624) for full descriptions.)

- How are VM snapshots and versions tracked?
- How are moves, adds and changes of VM hosts, their guests and applications used on them administered?

- How are VM and application availability monitored?
- How are user and administrative roles managed across VMs?
- What forensics mechanisms are available to help determine why a VM was altered?

All the products tested meet our ideals in some ways, but none nails them all. PlateSpin's PowerRecon and Virtugo's virtualSuite provide availability monitoring, moves-adds-changes tracking, and operational-history tracking for forensics, as does nworks for VMware. Onaro SANscreen has very appealing SAN monitoring and planning capabilities that add much-needed SAN management, monitoring, and control for VMware's VirtualCenter and SAN-connected VM guests residing on a VMware hardware host.

All these products have limitations, however, in terms of the platforms they support, the actions they can take without adding optional software, the level of image-auditing and forensics they provide, or the hierarchy of user and administrative roles they support.

What we've learned from testing almost 20 products is that there is no silver bullet. There is no single tool that will meet all six virtual-management ideals we've outlined. And, as in the early days of the network-management and client-management markets, administrators will be forced to cobble together multiple tools to get the job done until the industry has a shakedown that forces necessary mergers, partnerships and acquisitions.

*Henderson and Dvorak are researchers with ExtremeLabs in Indianapolis. They can be reached at [thenderson@extremelabs.com](mailto:thenderson@extremelabs.com).*

## PowerRecon helps plan for VM growth

PlateSpin's PowerRecon is a planning and monitoring application for organizations with many servers and virtual host targets. On the surface, PowerRecon resembles traditional network monitoring and management applications that track application inventory, connectivity and network use.

We like it, however, for what's underneath: a very useful server monitoring, planning and management tool (especially for VM hosts and instances) that can be coupled with the company's Optional PowerConvert tool, which does a formidable job of moving server instances from physical to virtual and to all the variations the virtual data center affords today.

### NETRESULTS

<b>Product</b>	<b>PowerRecon</b>
<b>Vendor</b>	PlateSpin <a href="http://www.platespin.com">www.platespin.com</a>
<b>Price</b>	\$799 as tested
<b>Pros</b>	Strong discovery, inventory and planning uses; very wide product compatibility.
<b>Cons</b>	Some limitations in trend-calculation settings; some launched apps can't be configured easily.

PowerRecon also has chargeback features that monitor and levy costs based on system uptime, CPU utilization, processor speed, memory used, network bandwidth used, and disk storage (space, speed and number of writes per second). By contrast, Virtugo's virtualSuite (see page 40) uses a patented, contrived metric for chargeback accounting.

We also were impressed with PowerRecon's ability to work with a huge number of VM operating systems, including Windows NT 4 and XP through current Windows Server products (support for XP and Windows 2003 Enterprise Server were tested and affirmed); most modern versions of Red Hat and SUSE Linux (we tested Red Hat Enterprise 5) and Sun's Solaris 7 (Sparc) and Solaris versions 8 to 10 (Sparc, Intel or Advanced Micro Devices). VM hosts can be running VMware ESX (which we tested), Citrix Systems' XenServer Enterprise Edition, Virtual Iron software or Microsoft's Virtual Server 2005.

PowerRecon and associated daemon modules run as a Windows service application. Once installed, PowerRecon uses a Windows Explorer-like user interface called Data Center Explorer that performs network discovery and maintains an inventory of hosts. Credentials are supplied by the administrator for server hosts that need to be inventoried internally or monitored further. A handy list of credentials is provided, but placing so many crucial passwords in a single place made us nervous, even though they are protected by files and database access permissions.

The results of the inventory process were shown in a tabbed user interface containing descriptions of host- or VM-instance characteristics — such as processors, general information, disk drive information, network adapters, applications, operating system services and daemons, and any other user-defined fields. Power dissipation also is tracked.

See PlateSpin, page 41



## Virtugo virtualSuite zeros in on VM performance optimization

Virtugo Software's virtualSuite offers integrated performance monitoring and VM optimization tools. Its cost depends on the tools you drop into your box.

Our testing toolbox included Virtugo modules called Meter, Perform, Optimize and Capacity. Meter sets up chargeback capabilities based on a Virtugo-patented algorithm (called vCapacity) that combines consumable characteristics of VM instances including the CPU, memory, disk and network I/O resources used.

The Perform module tracks those same host or guest-VM use characteristics and more. The Optimize module lets an administrator shape performance among different guest-VM instances. The Capacity module (formerly the History module) tracks and stores performance data for VM hosts and guest-VM instances.

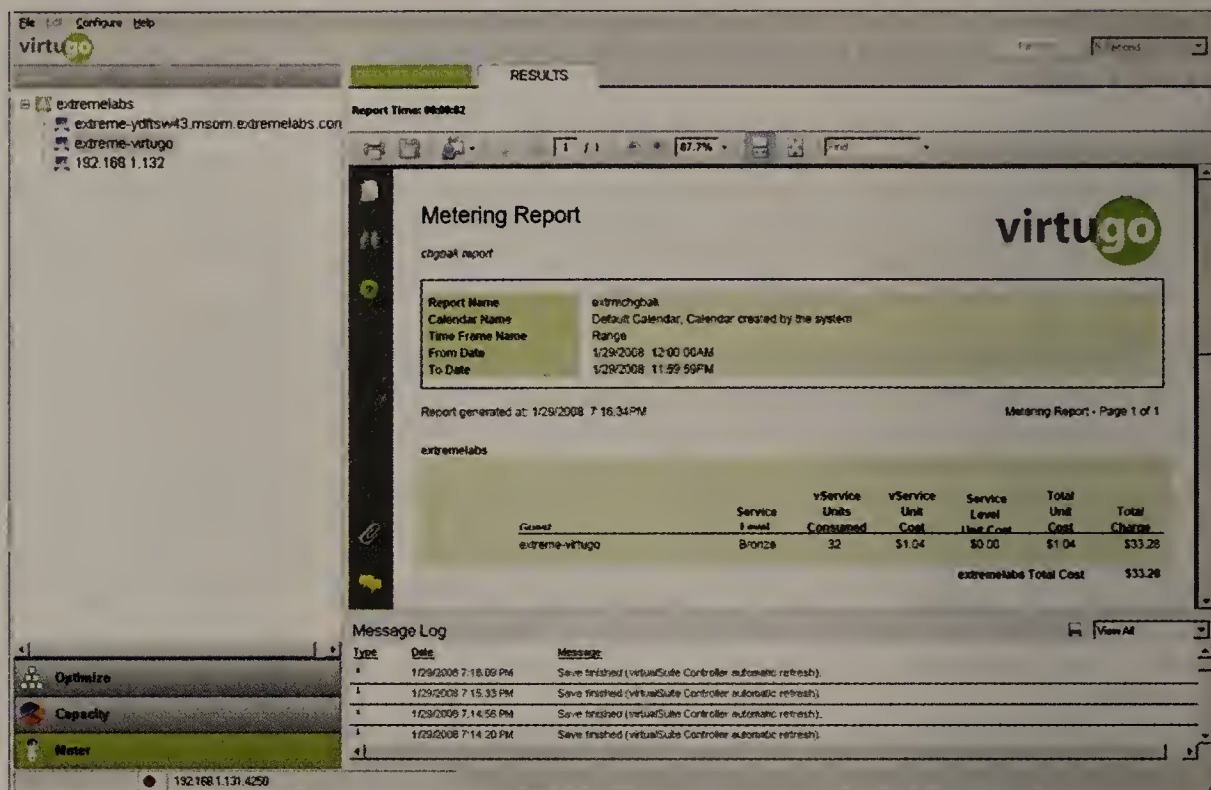
An additional module offered by Virtugo, but not tested, is the Connect module, which supplies a communications linking mechanism to Microsoft Operations Manager and other third-party monitoring applications.

VirtualSuite's best feature was its resource optimization of VM-guest instances. It monitors and analyzes VM-host resources, then set and resets VM-host allocations to suit the activities and resource use of VM-instance operating systems and applications on a VM-host platform.

For example, we used a homegrown application that would dominate CPU resources for a specific VM-hosted instance. We launched the application, then watched virtualSuite display the problem: The resources we'd allocated for the application were insufficient (in CPU and memory movements).

The second time we ran the application, virtualSuite was allowed to make adjustments for the application on one VM, essentially robbing CPU allocation from two other hosted VM-guest instances and reallocating it to the one that had pegged CPU. VirtualSuite has a long list of resources that can be monitored and reset in this fashion.

There are several components installed (we deployed them in a mixed environment of Windows XP SP2+ and Windows 2003 Enterprise Server SP1 Edition platforms): Controller, which is a server process that communicates with agents and contains the core logic of the suite; Viewer (the administrative GUI application); Database (Microsoft SQLServer); and Sensor agents for virtual-host products and guest-VM operating systems.



**Virtugo's virtualSuite, like PlateSpin's PowerRecon, charges back VM costs, so asset allocation can be partitioned by department or organization through its metering software component.**

tem instances. The agents support VMware ESX 2.5 and 3.5 virtual machines running on Windows and Linux servers.

Controller keeps its password, as well as VMware ESX Virtual Center passwords, in clear text in a program files folder on the host it runs on, so the machine needs to be well protected from file-access insecurities. Virtugo says it will remove this somewhat scary file from plain view in the next product release. VirtualSuite installs a VMware ESX host sensor application on a desired ESX hardware host, then installs guest (VM-instance) sensor applications. The sensors send information about CPU, disk space used, vCapacity bytes sent and received through network interfaces, committed bytes (disk-paging file allocation), memory pages used per second, and the number of committed bytes in use.

VirtualSuite finds hosts by describing them by IP address, server name, specific host name, domain name or range of IP addresses. After installing an agent (four minutes) on VMware ESX and the guest-VM instances on the ESX server, we enabled monitoring and looked at the information.

We set up artificial loads on four Windows Enterprise Server editions — one representing a high load, two with midsize loads and one otherwise quiescent VM instance on our ESX test server — and let virtualSuite optimize their loads. Fast, medium and slow learning-modes look at resource use for optimization purposes with descending levels of detail (fast sampling is high detail and slow is low detail).

It doesn't take long for virtualSuite to get a picture of the loads requiring more resources, and for it to adjust the VMware allocations of memory and CPU accordingly.

VirtualSuite gives a strong, but comparatively incomplete, picture of VM-instance operational characteristics. For example, missing are the disk and storage-area-network characteristics tracked by Onaro's SANscreen VMInsight (see page 42), or the more articulate VM-instance health monitoring of nworks MP (see page 41). Although virtualSuite doesn't control some of these competitive metrics, it can optimize per-

**See Virtugo, page 41**

## NETRESULTS

**Product** virtualSuite

**Vendor** Virtugo Software  
www.virtugo.com

**Price** \$199 to \$799 per tool

**Pros** Nice VM optimizing feature; fairly simple setup.

**Cons** Needs polish and protection; confined to VMware ESX.



## Virtugo

continued from page 40

formance through learning the significant resources that sensors do track.

There are some items that need polishing. Secure Shell access, needed to get to VMware and Linux VM instances, has a static port setting (the normal Port 22) that can't be changed, and the application has to have root access with root passwords on the hosts, a potential security problem for some organizations. The virtualSuite Viewer client application can have only one instance running per controller. There are no methods to report problems to administrators, and problems aren't thoroughly tracked through a help-desk-like system. Finally, the help files weren't all that helpful.

Overall, we liked the Optimize features of Virtugo's virtualSuite. It needs some polish, and we'd be more inclined to love it if it had more-extensive monitoring capabilities coupled to a help-desk or trouble-ticket mechanism. Nonetheless, small shops will like its controls, and it won't take a second job's worth of time to learn its features and gain

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## PlateSpin

continued from page 39

Each host can be assigned to a group or site, and we could easily start and stop monitoring; force an inventory to be taken; or launch an application, such as a terminal services or remote desktop connection, a Secure Shell or VMware Remote Console session, or another management application such as Embotics' V-Commander. A new template for tracking purposes also could be launched; this let us track the operational fundamentals of the VMware ESX host we used for testing, or a VM instance we tracked. We could set the thresholds for tracking and viewing graphical data, such as CPU utilization, memory use, disk space, disk I/O, and network I/O for warning purposes; and watch the trendline or use-collected data to graph a forecasted trend.

Once fully configured, PowerRecon can inventory or begin reporting monitoring details on demand or on schedule, and report findings via e-mail (a separate, available SMTP server is required) or various importable file formats. We set and forgot about this feature until reports started showing up like clockwork. Reports are highly configurable.

### Action from information

PowerRecon has a five-step server consolidation routine that divides potential mergers into server- or workload-protection projects. We selected a server consolidation project based on existing discovered inventory; then we gave PowerRecon a date and time range (varies for an hourly or user-specified time period that can exclude specific work days like Saturdays or Sundays) and had PowerRecon forecast or project a load with an optional power or cooling factor. Trend data flushes after 30 days, which can be a limitation. The data then was gathered, and we examined it to determine which consolidation or protection candidates existed among our test server groups. It turned out that we don't use our servers enough, and most of them were candidates.

Over the time we used PowerRecon, we came to depend on it, as well as on Onaro's tools, for our everyday lab and production activity sources. PowerRecon doesn't have quite the user interface of SANscreen or VMInsight (see page 42), but is very useful nonetheless. Coupled with PowerConvert, PowerRecon is a strong combination that's useful for medium-to-large installations. ■

# Nworks provides Microsoft mgmt. link to VMware

Management Pack for VMware for Microsoft's System Center Operations Manager 2007 is nworks' long name for a tool that provides strong VMware monitoring and management capabilities that ultimately are driven by Microsoft's management platform.

As the name implies, it requires Microsoft's System Center Operations Manager 2007, which in turn, requires a Windows 2000 SP4+ host (we used Windows 2003 Standard Server Edition). Although it can be installed spontaneously, we discovered that a bit of planning pays off, as nworks MP requires a comparatively sophisticated installation to pay off in eventual monitoring and management rewards.

It takes longer to install the Microsoft System Center portion than the nworks add-ons. Nworks MP connects as an add-on to System Center, or between System Center and VMware VirtualCenter or VMware ESX directly. An nworks Virtual Infrastructure Collector (VIC) connects to a VMware ESX Monitor to gather topological and inventory information. Collectors (each one for a different VMware host) are set up and configured for connectivity to System Center.

Once everything is installed (it took more than three hours to install both product sets with requisite updates), a wealth of information can be tracked and managed — hindered only occasionally by the busy if beautiful System Center user interface. The devil in the details is deciding how to view the collected information — in long lines of status and alerts, or graphs of comparative performance data — and aligning actions to be taken when target thresholds are exceeded. The mundane details of sorting event logs within System Center is simple for examination, and setting trigger alerts to be spawned from logs or events is equally simple.

The process of setting details, thresholds and filters inside System Center is a bit tedious, although the tedium is assuaged somewhat by developing administrator-defined groups of objects whose characteristics can be dealt en masse in a single action, for example, aggregating, then setting bandwidth thresholds for VM Web server instances. Once this setup process was finished, a console with two monitors allowed greater amounts of information to be displayed handily and permitted the busy System Center display to have a more comprehensive representation of the amount of information nworks MP provided.

A server-state view of System Center gives the best rapid visual indicator of overall systems health. As a tabular view of important information

See nworks, page 42

## NETRESULTS

<b>Product</b>	<b>Nworks for VMware ESX</b>
<b>Vendor</b>	nworks <a href="http://www.nworks.com/vmware">www.nworks.com/vmware</a>
<b>Price</b>	\$975 per VMware ESX (includes support and maintenance)
<b>Pros</b>	Rich monitoring and control of VMware resources; good performance tracking; stunning topological views of VMs on the network.
<b>Cons</b>	High options-and-configuration shock; very busy user interface.



nworks

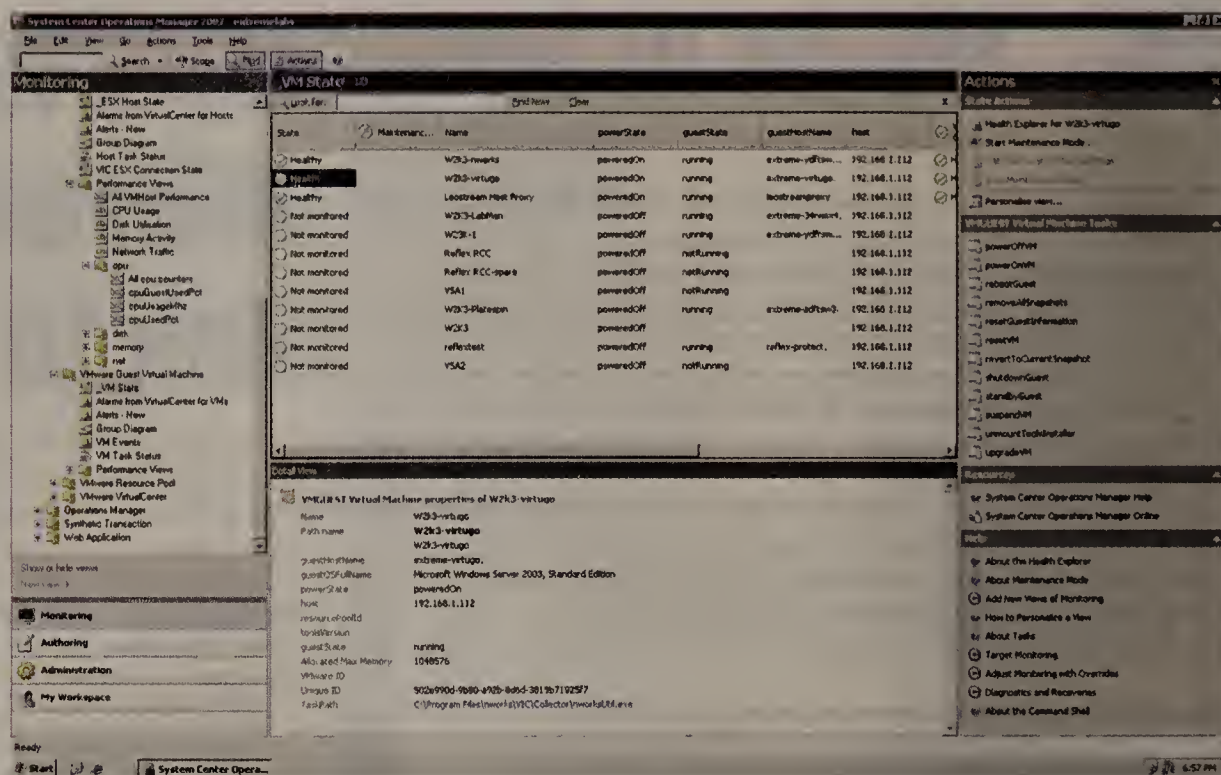
continued from page 41

(including overall status, CPU threshold, network I/O, and other default or definable data), the system told us at a glance whether all was well. We then could point to any VMware host and generate a topological view of the VM instances inside, detailing their health characteristics.

Nworks MP gets information from the VMware Virtual Interface API and through VMware's VirtualCenter. We could find little difference in the speed of the VM-guest instances when using VirtualCenter and Virtual Interface, except when VM-host use was at a peak.

Stunning network and VM topological views can be configured easily to make layouts that can be viewed and understood. We created numerous custom templates with ease. Performance views also are made easily and enhance the value of having twin monitors or displays to show comparative data graphically. The effect is very much like when Macs and Windows began to be used, and people would send memos with 20 fonts on them. Once under control, we found that sparse views of system-health tabular data were the ones we referenced most.

Coupled to Microsoft's System Center, nworks MP takes a long time to set up and configure, but pays off in monitoring control. Deciding thresholds and actions takes longer and requires a bit of practice. It's not a proactive package; it doesn't project thresholds, as PlateSpin PowerRecon does, and it has little knowledge of storage-area-network topologies, as Onaro SANscreen does (see above).



**Nworks "adapts" Microsoft's System Center server-management application to include a wide variety of specialized monitoring and control features for VMware ESX virtual machines.**

What we didn't like about nworks MP mostly had to do with System Center. For example, it doesn't disable options for nonsensical actions, such as shutting down something that can't be shut down. Instead MP attempts the action, generating an inarticulate error report. PlateSpin and Onaro studiously avoid this. According to nworks, MP also works with HP's OpenView. Overall, however, if Microsoft System Center is a company's management tool of choice, nworks MP for VMware makes a very good VM monitor and manager. ■

## Onaro gives SAN-centric view of VMs

Onaro's SANscreen VMInsight software monitors, tracks and manages VM-host hardware and logical hosted-VM operating system instances connected to enterprise-sized heterogeneous storage-area-network fabrics. It acts as the conduit for performance metrics to flow into the larger Onaro SANscreen monitoring and management application. Overall, Onaro's comprehensive, SAN-centric view of VM infrastructure is highly detailed — but from the perspective of consolidated and virtualized storage. Network Applications recently completed its acquisition of Onaro.

VMInsight is a strong candidate for any organization planning to increase its VMs and its SAN infrastructure, because it orchestrates VMware server needs with storage-pool availability across the SAN.

Our tests showed that Onaro's product performs a highly detailed analysis of SAN fabrics, providing details about which hardware servers use which parts of a SAN; SAN switches; SAN zones and logical-to-physical storage tables; and a great topological map.

VMInsight links this SAN data with information from VMware's VirtualCenter with detailed results. VM servers that need more storage can be analyzed rapidly and visually from a performance and use perspective with the help of VMInsight's well-designed, Java-based GUI. It's then up to system managers to use SANscreen's planning and migration tools to make changes in labeling, destinations, zoning, masking and so on, to accommodate VM servers' processes.

A second compelling reason for SANscreen VMInsight is that it can analyze a complex SAN fabric and provide visual, topological maps that show the fabric's paths graphically, as well as errors or oddities in

these paths and the fabric's configuration. SANscreen tests these paths as well, then characterizes connectivity problems with a visual, topological map (with drill-down to the errors or problems it has found).

Installation puts VMInsight on a Windows XP SP2+ host. Onaro installs MySQL on this host, and a process then links it to VMware's VirtualCenter. Therein lies the biggest drawback of VMInsight: It works only with VMware ESX and only with Fibre Channel SANs through VMware's VirtualCenter, and ignores other VM platforms and iSCSI storage connections. Onaro hints of additional VM hosts and iSCSI interface connectivity later in 2008.

SANscreen discovers everything on a SAN, except the filing system used on a target storage device — a small limitation. It tracks which hosts talk through which switch fabric in which zones to which storage devices. Performance data — such as traffic rates and SNMP data pin-pointing such things as switch errors, unavailable routes and zone mismatches for the monitored SAN fabrics — is kept in Onaro's database for review and reports, and purged at regular static intervals.

SANscreen's user interface reports daily violations (SAN misconfiguration or potential problems) and tracks daily changes as reported by VMware's VirtualCenter or VMInsight's view of SAN changes. For example, if a VM of Windows 2003 Server is disconnected from one SAN disk target (and associated routing through SAN switch fabrics and zones) to another location, it shows in the daily changes list. If this change caused a problem, such as duplicate routing through a SAN switch, this fact is shown in the daily violations list.

See Onaro, page 44





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# CLEAR CHOICE TEST VIRTUAL MACHINE MANAGEMENT

## Onaro

continued from page 42

Also from the SANscreen user interface, we could set global policies (enforcing how SAN, Fibre Channel and Zoning path violations are determined) or activate and configure VM-host virtualization rules, setting profiles that could be used later. We also could track SAN vulnerabilities (usually these amount to such things as incorrect SAN port, zone- or volume-assignment mistakes) and see these visually in a topological graphical view.

The graphical view can represent SAN paths, switches, zones, storage arrays, hosts and recently changed devices, as well as generic (and perhaps unidentified) devices. We tracked our VM hosts and VM instances using SANscreen Performance Chart and Load Analyzer to capture the activity of the individual devices and device mappings within the SAN.

Onaro makes strong use of its GUI and gives a SAN-centric view of an enterprise VM or server-based view of the world. Its level of detail is high, as is its ability to discern problems and vulnerabilities. Better still, we like its planning and change-modeling capabilities. Its online help guides are very useful. More helpful still is that Onaro installs 100% of its

products with varying degrees of training.

We were knocked over by SANscreen VMInsight's features and usefulness for VM-based SAN management. If Onaro could link its user interface to other software administration, management and monitoring packages, the combination would be huge. ■

## NETRESULTS

<b>Product</b>	SANscreen VMInsight
<b>Vendor</b>	Onaro www.onaro.com
<b>Price</b>	\$75,000 for the first 10 TB, \$250/TB thereafter
<b>Pros</b>	Provides comprehensive VM storage-area-network management; outstanding GUI.
<b>Cons</b>	VMware-specific; lacks iSCSI support.

## Reflex IPS adds security to your VM lifestyle

Reflex Technologies' Command Center is itself a virtual machine that sits on VMware's ESX server and acts as an intrusion-prevention system, watching connectivity activity between other VMs and the virtual network interface provided by VMware.

RCC watches traffic flow between physical and virtual network interfaces, and monitors and filters traffic based on a rules set of known hacks, cracks and odd behaviors between hosts.

RCC is a nervous beast that mischaracterized in our tests traffic only occasionally. Amusingly, it misidentified traffic coming from Virtugo Technologies' virtualSuite (a competing VM management product) as indicative of an instance of eDonkey. Otherwise it was highly accurate.

This product is stunningly simple to use. Installation takes seconds. Two modes are available: an inline mode that rests between VM-host instances and the virtual network cards in a VMware host server, and a bridged mode that listens to traffic mirrored from the interface. The inline mode can filter traffic based on default or administrator-modified packet-filtration rules, while the bridged mode is a listen-only setup.

We used both modes, first as a filtered connection, then as a filtered-and-bridged connection so that we could monitor one host while filtering and monitoring the other one. Each VMware hardware host server had four to six VMs running on it. We used Microsoft's Internet Information Server 6 and Apache as sample applications on each server instance.

Once the RCC VM instance is alive, it immediately starts evaluating packets (or filtering, if that's what you've chosen to do) and relationships between VM instances and the rest of the connected world. Sensors on multiple VMware hosts can be set up and linked to a single RCC console.

RCC then categorizes the intrusion profile information it's evaluated into low-, medium- and high-concern categories (shown in a 3D bar graph as yellow, orange and red) when it sees a problem not in line with its rule set.

For example, we probed Server Message Block ports on each server, an action that correctly triggered signature messages of several attack types. Additionally, we had one server pound the DNS ports of another hosted server to trigger the identification

of a User Datagram Protocol (UDP) flood attack.

It's also possible to set custom policies, and the one we found most interesting was an alert-and-deny policy for packet flooding that fits the profile of denial-of-service (DoS) attack. SYN, Fragment, UDP, TCP and Internet Control Messaging Protocol flooding can be detected and automatically denied or otherwise spawn a high-concern alert. Alas, the distributed DoS attacks we tried could not be filtered (we used more than 10,000 unique IP addresses in our attack).

Each host can then be tuned for a detection-sensitivity level (corresponding to the number of packets flooded) before the filter turns on for each packet type. You can select a single host or a 24-IP-address range of VM hosts to be protected in this way. We tried to turn sensitivity to its highest level for our distributed DoS attack, but RCC failed to keep up with the floods. It simply started halting traffic, slowing packets flowing through the RCC link between the virtual network card in the VMware host and its targeted/attacked server until the attack was over.

The rules set can be modified by protocol type using RCC's ProtoEval tool. Like the flood evaluation, RCC looks at packets for conformity, enabling either alerts or automatic filters to be applied when it "sees" malformed packets. Administrators can also define RCC topology constraints, meaning the ability for RCC to include or exclude traffic from specific addresses when it evaluates traffic.

RCC can send SNMP traps to a larger reporting system and e-mail alerts to designated IT staff. Administrators can rate-limit the number of e-mails per alert to prevent a million repetitive messages. Antivirus and spyware detection also can be enabled, but this wasn't tested.

What we love about RCC is that it's configurable (including new attack signature updates), and has a sophisticated but rapidly discernible user interface that's easy to understand, although it does tend to lean toward listing too many alerts rather than missing one. We saw only small amounts of latency under very high traffic loads to numerous servers. As a virtual appliance, it takes up only virtual room, but it's an important consideration for any virtual network.



## Virtuozzo containers give apps room to play safely on the same server

Virtuozzo, from Parallels (formerly SWSOft), gives every application its own sandbox to play in.

Virtuozzo 4.0 is a virtual-machine hosting platform that provides application-partitioning services. These Virtual Environments operate in a way that's similar to the way RedHat's SELinux and Sun's Containers provide operating-system-instance isolation for applications.

Virtuozzo 4.0 (we tested the final RC version) hosts a single operating system — either Windows or Linux; we tested it on machines running Windows XP SP2, Windows 2003 Server Standard Edition and CentOS4 — then creates independent virtual-environment instances that can be set up to run designated applications temporarily, permanently or on an as-needed basis. The Virtual Environments (depending on the operating-system host used) have separate administrative controls, registry instances, domain users and Active Directory instances; and can run processes or applications with unique or shared files.

Virtuozzo's Virtual Environments are superficially similar to Microsoft Terminal Services or Citrix Systems Metaframe sessions, but provide instance controls that are more closely related to the application isolation provided through Red Hat's SELinux session and user system file and permissions controls.

The applications are captive to the specific host kernel, meaning that a hardware server platform offers only the host operating-system instance, rather than a number of hosted operating-system instances. This fits the common profile of other VM products, which usually have varieties of operating systems running beside each other atop a hypervisor or paravirtualized host-VM management kernel. (See "VM primer," [www.nwdocfinder.com/3625](http://www.nwdocfinder.com/3625)). Virtuozzo is therefore a hybrid of sophisticated VM hosts and application-instance hosting environments.

All the user- and application-provisioning controls needed are easily found within the product's excellent Virtuozzo Control Center (VZCC) GUI, or its remote-access alternative, Virtuozzo Management Console.

VZCC provides strong and clear control for the Virtual Environments; makes Virtuozzo approachable by several technical levels of administrators, from systems engineers to savvy users; and carefully controls user Virtual Environments administrative behavior. This degree of control isn't usually available in virtualization environments, although Microsoft's Virtual Manager System Center proposes this capability in the betas we've seen of Microsoft's upcoming virtual services for Windows 2008 Server editions.

Users can be provisioned access to a subset of features tailored to their needs, which they access through an interface called the Virtuozzo Power Panel (VZPP). The VZPP lets administratively delegated users start and stop their own sessions of Virtual Environments; as well as control backups and restorations, monitor session resource use, and connect to Virtual Environments through a remote desktop connection and a browser link. This permits very easy and approachable access by users who desire their own remote session.

Virtuozzo comes in a 32-bit version, as well as two 64-bit versions: one for AMD or Intel 64-bit CPUs, such as Athlon, Opteron and EM64T/Intel, and one strictly for the Intel Itanium. We tested the 32- and 64-bit

### NETRESULTS

**Product** Virtuozzo 4.0

**Vendor** Parallels  
[www.parallels.com/](http://www.parallels.com/)

**Price** \$2,500

**Pros** Astute application-instance concurrency; great session-behavior controls; easy access for software-as-a-service profiles.

**Cons** May present licensing problems; streaming graphics slow performance.

AMD/Intel versions. Virtuozzo's application comes in an enterprise version, as well as a version for server-hosting organizations.

Installation for all versions of Virtuozzo was painless. The host operating system for the physical server was installed, then we installed a Virtuozzo layer. Virtuozzo uses templates to enable the optional use of common files among hosted applications, and therein lies Virtuozzo's greatest weakness. Common files can compromise numerous instances should they be cracked. That said, if the server's shared resource applications are secure, the Virtual Environments are secure.

We used several simple programs to attempt to tie up CPU and disk resources to view Virtuozzo's ability to sequester instance sessions. When we pegged CPU on either Linux or Windows, the control reaction (diminishing the out-of-control session on others) came after only a second or so of perceived session latency. Additional attempts either to tie up resources (running applications that tried to grab CPU use or otherwise blow up a session) didn't have a discernible effect on other applications running on the hosted applications we used.

We installed Microsoft Office on our Windows installation, and were able to spawn 28 Virtual Environment sessions using the prototype of a document, with Microsoft Word, before no more sessions could be opened. Admittedly, the 28 sessions were somewhat slow, partially as a result of the viewing mechanism (Microsoft's Remote Desktop Protocol), and partly because the server was managing a lot of work. By contrast, CentOS Linux was able to host 41 Virtual Environment OpenOffice Writer sessions before those sessions crawled to a halt on the same hardware.

Copious research must be done by potential users of Virtuozzo, because some application licenses are for a single CPU, while others are for a number of sessions or users. Your value from licensing, and the odd imbalance of possible application instances on a single operating system, will vary.

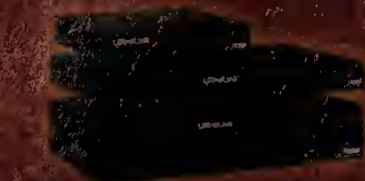
The Virtuozzo sandboxing approach to Linux- and Windows-application instantiation lends itself handily to application session-hosting. With the PowerPanel, users can get in, do work and get out in an understandable way. Virtuozzo's masterful VZCC interface was very powerful and approachable, as was the company's Adobe Flash-based tutorial and help system. Virtuozzo's methodology for software-as-a-service may help circumvent the overhead associated with more sophisticated VM instances handily. Perhaps the success of Virtuozzo is another reason that Citrix purchased XenSource, because Virtuozzo is poised to make terminal services less terminal and more service. ■

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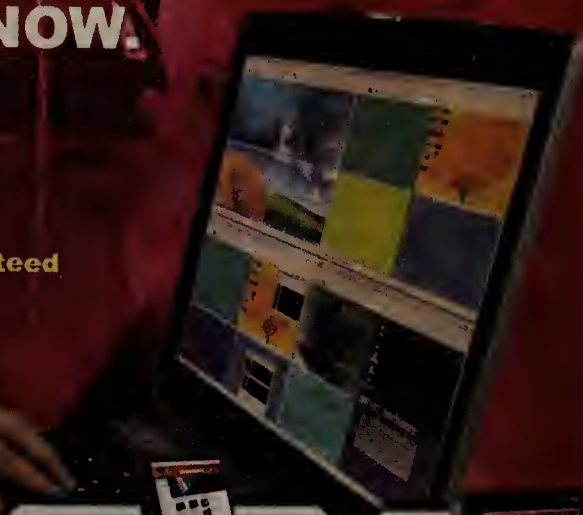
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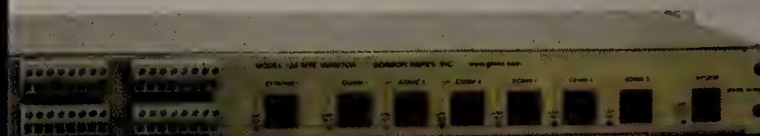
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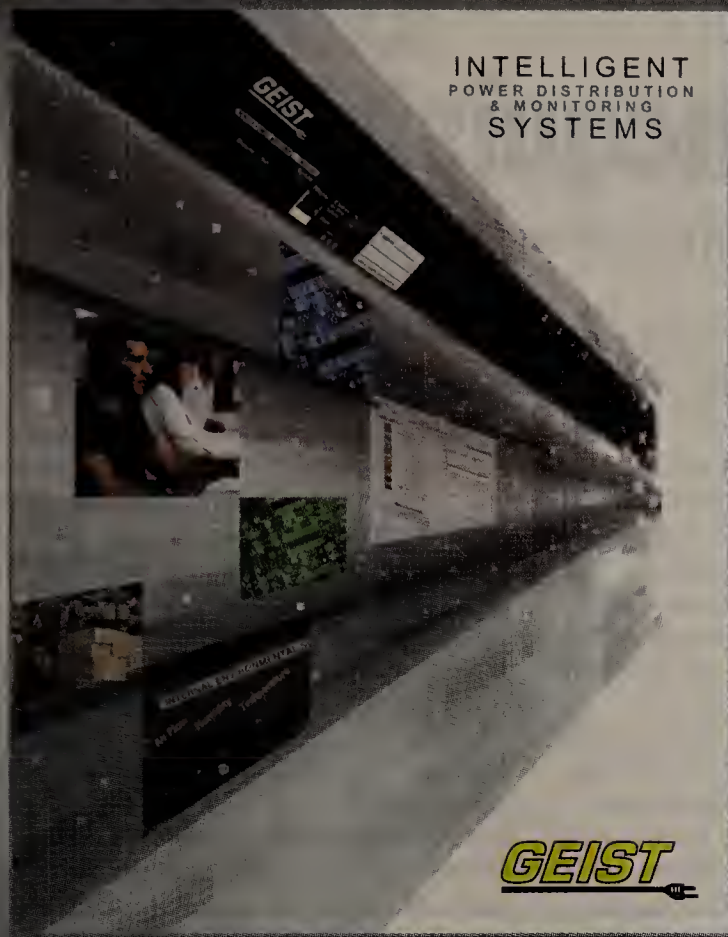


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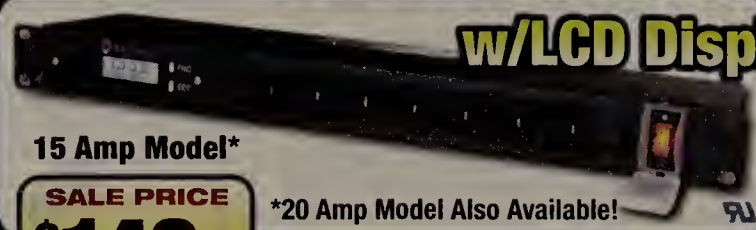


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# Enterasys looks for acquisitions

Targeting security, wireless to reach \$1 billion in revenue

BY JIM DUFFY

Enterasys is looking to make one or two acquisitions this year in an ambitious effort to increase revenue to \$1 billion — it isn't close today — by expanding the company's presence in security and wireless.

The LAN switching vendor also is lining up partnerships with VoIP companies and expanding its security portfolio to include firewalls and VPNs in an effort to tap ancillary markets, company officials said in an interview last week.

Currently controlling less than 1.5% of the \$18 billion Ethernet switching market, Enterasys is hoping to reverse a multiyear trend that has seen its share slide from 1.8% in 2004 to 1.3% in the third quarter of 2007, according to Dell'Oro Group. Acquiring another vendor might do that as well as make Enterasys better able to compete in a market that just got more competitive with the entrance of Juniper Networks two weeks ago but is still dominated by Cisco.

"We are going to acquire this year," says Mike Fabiaschi, Enterasys president and CEO. "We've always said from the beginning and the market has always said a clear alternative to Cisco would make sense. We think that the next player that can get close to \$1 billion will start to emerge as a clear No. 2. We're really going to try to make something happen in 2008 to that end."

Privately held Enterasys does not disclose

revenue figures, but they are believed to be about \$250 million. Fabiaschi says the company is profitable and cash flow positive, and that revenue is growing.

Fabiaschi says Enterasys will look to make strategic acquisitions in security or wireless. Enterasys currently has an OEM relationship with Trapeze Networks for WLAN equipment, and is reported to be sizing up Bluesocket.

In security, analysts have said Enterasys needs to extend into firewalls or SSLVPNs to augment its line of security-enabled switches.

Enterasys also is looking to acquire in order to grow and scale the company to better compete for the next wave of enterprise buying.

"In the next three to four years there's going to be a lot of refresh, a lot of buy," Fabiaschi says. "Companies are going to look to consolidate before a lot of that happens in order to bulk up and be ready for it. 2008 has all the right feelings that it is going to be a year of consolidation."

## Juniper says it is No. 2

A new buying cycle is not the only impetus for consolidation in enterprise switching — Juniper's entry into the market will force companies to try to bulk up to compete with another multibillion dollar player, Fabiaschi says.

Juniper believes its entry will dramatically change the market. CEO Scott Kriens recently stated that a mature market like enterprise switching can't support more than two players, adding that Juniper is now that second horse in the race.

Enterasys is not ready to concede that.

"It does seem like the No. 2 and 3 providers in this space right now are probably doing \$600 to \$700 million [in revenue]," Fabiaschi says. "We are far away from \$1 billion. It will take one or two of the right acquisitions that we could

get real close to that."

Analysts say acquisition is a good way for Enterasys to go in order to grow.

"There's a couple of companies out there in the WLAN space that are seemingly for sale," says Steve Schuchart of Current Analysis. "There's certainly opportunities for them to acquire an existing customer base and to grow their company via acquisition."

Schuchart adds that firewalls and VPNs are gaps in the Enterasys product line that the company needs to fill "to be a complete player." Enterasys plans to move on that front through internal development and external partnership, says Chris Crowell, Enterasys executive vice president of R&D.

Enterasys is also looking to strengthen its partnerships in VoIP, a market where the company is a virtual non-entity. The company plans to announce partnerships with three "top-tier VoIP players in the world" this year, Fabiaschi says, one of which could be a linkage with ShoreTel this week.

"We've made a conscious decision not to get into VoIP," Fabiaschi says. "We think that we'd rather be a Switzerland — we support all the players who provide VoIP but I think we'd end up being a No. 13 or 14 player in a very crowded market."

Enterasys would rather provide the secure infrastructure that recognizes and prioritizes voice traffic instead of a VoIP equipment provider, he says.

The partnerships will not preclude Enterasys from supporting VoIP vendors it does not have a close relationship with, Fabiaschi stresses.

"We will still support Cisco, Avaya, Nortel, Alcatel, Siemens," he says. "The handset provider that you buy today may not be the handset provider that you buy tomorrow. We'll never say to somebody that you don't want Enterasys because you chose this voice provider or that voice provider. Voice is going to turn out to be just another application within another two years. When that happens I want to make sure that our customers realize they can stay with us." ■

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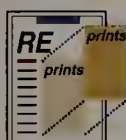
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## BACKSPIN

Mark Gibbs

# Complex software? Plan to fail!

I just got some feedback from reader Stephanie Bice, the regional manager of Digital Warehouse, about my recent Gearhead column (see [www.nwdocfinder.com/3861](http://www.nwdocfinder.com/3861)) concerning my adventures with Network Solutions' e-commerce offerings.

She wrote: "I am stuck in a similar situation with an accounting/software package my company purchased last year. Your statement that 'the

sheer enormity of the product means you can't find all of the serious gotchas until you are deeply committed to using the product' struck a cord with me, as that is exactly what happened in my situation. And with the almost \$100K price tag I paid, not to mention more than \$50K in support (if you even want to call it that), I feel a bit ripped off."

I think that using the phrase "I feel a bit ripped off" when \$150K is involved qualifies as a serious understatement. I talked with Bice, and it turns out her tale is another good example of a dirty little industry secret (see [www.nwdocfinder.com/3862](http://www.nwdocfinder.com/3862)) — in this case, the fact that when you implement complex software there's a high probability you won't be happy with the result.

Digital Warehouse's problems started when a consultant recommended Sage Software's ERP product and Sage, in turn, recommended a reseller to work with. After an expensive needs analysis, the reseller recommended Sage MAS 500 ERP.

Much of this happened before Bice arrived at Digital Warehouse but she, of course, wound up dealing with the mess that resulted. Bice's biggest complaint is that the system doesn't match the company's needs, and even simple operations require far more effort than is reasonable. In short, she reckons the company was seriously oversold.

The harder-nosed among you might be muttering "caveat emptor,"

but let's consider what it means for a small company to implement something as complex as a new accounting system. First of all, there's the issue that, while the client knows what its business needs are and can inspect potential solutions to see if there's a good match, the reality is that the devil is in the details.

It's never the big stuff that gets you, it's the little stuff — the lack of a report you need, the absence of an export or import format, the lack of options for handling just one detail of workflow — those are the things you don't know about because they are buried so deep.

So, a wise company, such as Digital Warehouse, hedges its bet and retains experts to bridge the product-knowledge gap and identify the potential problems. And who knows the product best? According to most vendors, it's the resellers they recommend, but of course the resellers want to maximize their revenue, which creates something of a conflict of interest.

If things don't work out as planned, what does the client do? It first looks for support from the reseller. When that relationship goes sour, as it did between Digital Warehouse and the reseller (Digital Warehouse believes it was overcharged and underserved), what is the software vendor's responsibility? In this case, it appears that Sage has little interest in ensuring happy customers. Bice tells me that so far Sage has ignored Digital Warehouse's appeals for help.

The worst part of this is that Digital Warehouse's experiences aren't unique. Every day some company finds it has been oversold. I've read that 80% of all ERP implementations fail or deliver inadequate value. Perhaps the only strategy when it comes to complex software is to assume the worst and plan for failure. Does that count as a strategy?

*Gibbs strategizes in Ventura, Calif. Tell your tactics to [backspin@gibbs.com](mailto:backspin@gibbs.com).*



Paul McNamara

## NETBUZZ

News, insights, oddities

# EFF's Patent Busting Project in danger

The Electronic Frontier Foundation's successful Patent Busting Project may itself be busted by language in "reform" legislation pending before the U.S. Senate.

This "reform," as it stands, instead will protect frivolous patents from the EFF and similar watchdogs by limiting to one year from a patent's granting the time in which it could be challenged by anyone other than those suffering direct financial harm.

The head of the EFF project, patent attorney Emily Berger, tells me: "While we generally support patent reform, a bill that does not allow us to continue to file third-party reexamination requests would diminish the quality of existing patents and offer more opportunity to abuse the patent system. This is contrary to the goals of the bill."

EFF last week sent letters of protest to the ranking members of the Senate Judiciary Committee, Sen. Patrick Leahy (D-Vt.), and Sen. Arlen Specter (R-Pa.). Wrote Berger on the EFF blog: "Today EFF submitted a letter to Senators Leahy and Specter calling their attention to a portion of the Draft Judiciary Committee Report of the Patent Reform Act of 2007 which has the potential to kill EFF's Patent Busting Project."

"The public has a right to defend itself against patents that should never have been granted, and organizations like EFF exist to assist in this process," Berger wrote. "Reexamination proceedings are essential for us to continue this work."

By late last week, Leahy's office had not replied to the letter or my own requests for comment. (I opted not to contact Specter's office because I didn't want to distract the senator or his staff from the important work of policing National Football League rules enforcement.)

The Patent Busting Project has notched a string of victories. Last year, the project succeeded in convincing the U.S. Patent and Trademark

Office (PTO) to revoke a patent held by Clear Channel Communications that covered a system for recording and distributing live musical performances. In December, it was the distance-learning site Test.com wilting under the patent-busting heat, as the PTO rejected all 16 claims on which its patent rests.

Everyone complains about frivolous patents. The EFF is doing something about them. It would be a shame if that effort were to end.

## E-mail gaffe leads to billion-dollar news leak

A simple e-mail slip-up is all we're talking about, the kind any one of us could make at any time: A Philadelphia lawyer addresses his electronic missive to an Alex Berenson instead of Bradford Berenson.

What happens next, however, is anything but routine — it's front-page news in The New York Times. That's because Alex Berenson happens to be a reporter for the Times (Bradford is a colleague of the sender), and the e-mail happens to concern settlement talks between the U.S. government and pharmaceutical giant Eli Lilly that include the proposed sum of \$1 billion.

Writes Portfolio.com, which broke the story behind the story: "Eli Lilly had every reason to want to keep the talks [over marketing practices] under wraps. It was paying a fancy law firm a small fortune to negotiate deftly and quietly."

While not an everyday occurrence, you'd be surprised how often stories of this nature — if not this magnitude — simply pop into the in-boxes of ever-grateful news reporters. It has happened here at *Network World* on a number of occasions.

Portfolio.com reached Times reporter Berenson, who said, "I can't say anything. I just can't."

But can't you see the smirk on his face?

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